

JOURNAL *of* FARM ECONOMICS

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No. 1

POSTWAR AGRICULTURAL POLICY—PRESSURE VS. GENERAL WELFARE*

O. B. JESNESS

University of Minnesota

AGREEMENT among agricultural economists regarding the postwar agricultural prospects appears to be substantial. Farmers expanded output to meet war needs and often drove themselves and their equipment hard in order to do so. They might, therefore, be expected to welcome an opportunity to operate under lessened pressure and in the process reduce output materially. However, there are several offsetting factors. A more plentiful supply of labor of better quality will be available. New and improved equipment is eagerly awaited by many farmers. War gave impetus to the adoption of improved practices and methods, and there is no apparent reason for believing that an end has been reached in technological improvements. For these reasons, agricultural production is expected to continue at a high level. This prospect leads to concern over whether market demand will be adequate to absorb such a volume of output at prices which farmers will view as reasonably satisfactory.

Military requirements began to taper off with V-E Day since the need for building up stockpiles for the uncertainties of a war in Europe no longer existed. V-J Day and demobilization have reduced and are reducing those demands further. As members of the armed forces acquire the title of "veterans" they again become part of the civilian market, but it is doubtful whether they swell that market as much as they shrink the purchases for the armed forces.

Lend-lease shipments are out of the picture. Relief shipments of

* A paper presented at the annual meeting of the American Farm Economic Association, Chicago, December 27, 1945.

food through UNRRA or otherwise may not remain important for more than a year or two. Major concern, therefore, is over the prospects of restoring and developing international trade to the point where active demand for farm products for export will continue. Even if the efforts to continue and expand trade are crowned with success, changes in its makeup from war days are certain. Agricultural exports again will consist mainly of such products as cotton, tobacco, fruits, lard, and wheat, rather than cheese, meat, and butter included in the lend-lease and relief supplies. The prospects for foreign trade are linked very directly with domestic programs and with the degree to which international cooperation is developed and to which this country assumes its responsibilities for making that cooperation succeed.

Even with the high level of employment in prospect after reconversion, there is room for doubt with respect to the ability of the market to absorb the prospective output of all farm products. It is difficult to find any basis for anticipating a demand condition as strong as that existing during the war. At the best, the number of workers receiving regular pay checks will be less than during the war. Overtime will be largely eliminated. Raising wage rates to compensate for loss of overtime will not be reflected in higher real wages generally except to the extent they are earned by increased productivity. Additional sharing of profits through higher wages may benefit farmers to the extent increased wage payments result in more effective demand in farm markets than if those funds are distributed as dividends or retained in the business. However, agriculture will not gain if such sharing goes to the point where needed growth and expansion are prevented or discouraged. Increases in wage rates which are translated into higher prices for the products and services involved will tend to have an unfavorable effect on agriculture because they will increase farmers' operating and living expenses and will lessen the purchasing power of consumers who do not share in the higher rates. If wage rates are driven up to a point where they reduce employment, the loss in income and buying power will lessen demand for farm products. If the aim is to maintain purchasing power, one very effective way is to reduce prices as rapidly as gains in efficiency and profits make possible. This results in wider distribution of gains than is obtained by translating all of them into higher wages for selected groups of workers.

Another point worth noting in appraising the market outlook is

that farm products will be faced with stronger competition for the consumer's dollar as civilian goods reenter the market. The prospects, consequently, are that demand for farm products will be somewhat below war peaks. Of course, these demands were not met in full during the war for consumption of many agricultural products would have been larger at prevailing prices had not shortages required rationing. As one weighs considerations such as these it is apparent that the threat of agricultural surpluses in some lines is real.

What are the desirable ends of agricultural policy in the view of these prospects, and what obstacles will prevent the attainment of those ends? Man has certain resources placed at his disposal for use in the satisfaction of his wants. How fully and well the wants are satisfied depends upon how the resources are utilized. With continued surpluses in prospect in some agricultural lines, the call is for a shift in the use of some resources now employed in agriculture. This may in part involve less intensity, or lower pressure, in farm operations. If that is to occur, however, there must be a shift of some resources out of agriculture into other lines where they may be of greater service in satisfying wants. In the case of labor and capital, the choice is between their use in agriculture or a shift of some of these resources into other fields where their employment may yield more satisfaction of want. In the case of agricultural land, the choice is one of intensity of use in farming and, to a limited extent, a choice between continued use in agriculture, shift to forestry or other uses, or abandonment.

Human resources are the most important. Improvement in the agricultural situation by adjustment in the amount of labor employed and the numbers sharing in the farm income depends upon the availability of opportunities for farm people to enter productive employment in nonagricultural lines.¹ When such opportunities exist, some of those engaged in agriculture may improve upon their income status by moving into other fields and the reduction in the

¹ It should be remembered that the farm population is far from homogeneous and that the census total includes a large number who are not producing farm products for market. Nonagricultural employment may help improve the income status of many of the latter. However, employment shifts to bring about adjustments in market supplies and in farm income must reach farm people who are actively engaged in production for market and who share in the income from sale of farm commodities. The mobility needed for such shifts naturally is greater for farmers' sons who are reaching maturity than for operators who are already established on farms. The latter often tend to have immobility resembling that of "sunk" capital.

number of claimants to a share in the farm income will provide better returns for those remaining. This points to the vital concern which farm people have in the employment and investment opportunities in non-agricultural lines. It also suggests their keen interest in policies which reduce the barriers to employment of resources in other lines to the minimum.

The attainment of such adjustment does not need to and should not rely on the operations of relentless economic force alone. The effects of economic forces can be influenced and tempered by enlightened policies. However, policies which are not enlightened or which merely cling to the past instead of recognizing the need for adaptation to change may lead to longer-run consequences much more disastrous in the end than those involved in allowing economic forces to bring about needed adjustments now. The solution lies in finding the best way to make the needed adjustments, not in avoiding them. No intelligent person is suggesting that public policy be that of sacrificing the farmer for the gain of others. But, on the other hand, there is no reason for believing that farmers generally want to be protected to the point where they are made the wards of a benevolent government for all time to come. They, no doubt, realize that if they become the wards, the government will be the master.

Government should endeavor within its proper sphere to serve public interest by getting the best and fullest use of productive resources, not merely in agriculture but in all lines. It should seek policies which will encourage and promote productive activity and the welfare of the citizens. Improvements in diets may be effected through food distribution programs and educational efforts. The health and productivity of the population as well as markets for farm products may be aided by such measures. While the possibilities of developing outlets for farm products as raw materials for industry often are exaggerated by vivid imaginations, vigorous research should be carried on by public as well as private agencies to explore these possibilities to the limit. The basic purpose of such research should be that of better use of resources and fuller satisfaction of wants and not that of providing artificial markets. Careful distinction, consequently, needs to be made between uses which are physically possible and those which represent good economy.

The government can supply much guidance and leadership in the formulation of price and wage policy of labor and management.

Conflicts between labor and management on wages and conditions of work will continue to arise from time to time. It ought not be the function of government to take sides in such controversy. It should constantly hold the common good uppermost and seek to guide settlement to that end. That guidance may play an important part in arriving at a price and wage structure which will help rather than hinder economic activity. Such an accomplishment can be of tremendous benefit to farmers.

It is doubtful whether any large number of Americans really would welcome leaving all decisions over economic affairs to government. Business constantly emphasizes its belief in "private enterprise." While organized labor wants the government on its side, there is nothing to indicate that it desires any economic monarchy. Experiences of other nations, whether under fascist or communistic domination, show labor what can happen to bargaining privileges under a totalitarian regime. Farmers on more than one occasion have voiced their antipathy towards regimentation. This suggests considerable support for the idea that public policy ought to aim at the retention of the greatest possible amount of freedom of decision and action in private hands. Needless to say that freedom must be exercised with intelligence and with due regard to public interest. Failure to do so will invite curbs to protect the public against abuses, that is, it will lead to a limitation of freedom. This is a point which management and labor may not be appreciating as much as they should.

What sort of public programs will fit best into such a framework and do the best job of attaining the desired ends? Programs designed to improve the agricultural situation center around farm income and usually aim at income improvement by affecting price. There is strong argument, however, for leaving the job of arriving at prices to the market. By and large, the market has not performed too badly in arriving at prices which have been serviceable as guides to production and at the same time have done a fairly effective job of moving supplies into consumption and export. The market has done a reasonably satisfactory job at pricing except in times of runaway inflation or extreme depression. Direct action by government with respect to prices at such times may have been inescapable but, even then, it has been a case of treating effects rather than causes.

One argument brought forward in support of price intervention

by the government is that factors beyond the farmers' control affect the output of agricultural products and upset the market. The unfavorable consequences of such variations may be exaggerated if attention is given only to the downswings in price which may result. While no one will deny that these uncertainties create difficult problems for farmers, it is not clear how replacement of the market by government authority in arriving at prices will provide a solution. This is especially true in view of the fact that government is asked to eliminate the downswings and not to level out the peaks. If programs to overcome variations in supply due to weather conditions are to be undertaken, they need to be guided by supply considerations rather than be made the instruments for attaining certain arbitrary price levels. The latter will tend to build up abnormal stocks which will lead to production control.

Price manipulation by government involves more than merely deciding on the levels which it is hoped will produce the desired income results. The problem of price relationships in the case of agricultural commodities is most complex as the experiences of O.P.A. and other agencies demonstrate. Agricultural output probably is guided even more, at least in the short run, by price relationships than by the general level of farm prices. If the relationship among prices is thrown out of balance, the best use of resources will not be secured. Government price programs tend to lack the flexibility needed to maintain the best balance.

Moreover, naming a price is one thing; making it "stick" is something else. There is little demand among farmers for price interference by government unless the objective is to raise the level. "Stabilization" as used in reference to farm prices connotes raising prices rather than smoothing them out at existing levels. But if the resulting price is above the market, more will be available for sale than the market can absorb and production expansion will be invited. The government, consequently, must establish control of supply, or at least of the surplus and its disposal and eventually of the volume produced or sold if such price fixing is to succeed over a period of time.

Furthermore, if artificial price levels are established, they will turn out to be rather effective in curbing exports. The glib assumption that this aspect of the price dilemma can be solved by some variant of the two-price system for export dumping is not based on any realistic facing of facts. A program of arbitrary price fixing

now would be particularly unfortunate because it would lead inevitably in the direction of isolation and economic nationalism at the very time when the only real prospect we have for avoiding another war is found in international cooperation.

Considerations such as these suggest that income payments will be less disturbing to normal relationships than price support or manipulation in instances where public welfare will be served by providing additional income to farmers by governmental action. The most potent argument leveled against income payments is that they are a form of subsidy. Supporters of price maintenance through the use of government funds do not seem to realize that it likewise constitutes subsidy. The difference on these grounds is more apparent than real.

Another objection raised against income payments is that their continuance depends upon the willingness of Congress to appropriate the necessary funds. However, this limitation may in fact be an advantage in that it may give some promise that a program of income payments will be reserved for conditions of extreme depression or for other unusually abnormal situations instead of becoming a permanent source of farm income. While income payments do not interfere so directly with market functioning as does price control, they have some of the objectionable features of the latter if made permanent. They will tend to be capitalized in land values; they may interfere with production shifts, particularly if they are based on past production; and will tend to slow up movement of farm people into other fields.

While direct assistance in maintaining farm income should be reserved for emergency use, there are various other programs of benefit to agriculture which should be a part of permanent policy. One of these is improved nutrition through school lunches and food distribution to low-income persons. This should be a nutrition and not a surplus disposal program; that is, it should be directed by considerations of nutritional requirements and standards and any effect on surpluses should be viewed as a by-product. A nutrition program should justify itself by its service to general welfare through its contributions to better health and productivity.

Public policy relating to support of such services as education, health, roads and the like provides a way of improving rural levels of living other than by price or direct income manipulation. Activities along these lines when properly planned and executed can

be abundantly justified in terms of public responsibilities and benefits. The public is only partially aware of its concern for and interest in making basic educational opportunities available generally. Rural areas produce population as well as materials for the cities. One section draws population from another. The productivity and level of intelligence of the citizenry are of general concern. The cost of providing education for the population hence should be general rather than wholly individual or local. Health and highway facilities may be viewed in similar light. The omission of any mention of soil conservation in this listing is not because this is a matter of no importance but because it is of too great an importance to be used as a pretext for distributing income payments to farmers. Investment of public funds in soil conservation should be of such a nature that it will bring returns in benefits to the public.

Public policy which provides effective encouragement to active production and employment in nonagricultural lines will be of benefit to farmers. This is not a problem to be attacked by any such universal solvent as guarantees of jobs at given rates of pay. It is rather one of giving appropriate recognition to effects on employment and activity of a wide range of governmental programs. Some will at once think of what taxation, fiscal and monetary policies can do. Here again we need to view them as contributors rather than as universal solvents. It is unrealistic to assume that governmental programs will not continue to play an important role in economic activity. Government has a great responsibility for protecting general welfare in strifes between segments of the economy. Without dictating either wage or price policy of labor or management, it can supply helpful leadership. Government has a direct responsibility for curbing monopolistic practices or other activities contrary to public interest regardless of who the offender may be. Government leadership may play an important part in breaking log jams which, if left unattended, might develop into major depressions.

Governments have been frequently charged, and not always without foundation, with taking sides in supporting one group against another. Government is administered by human beings and, consequently, is subject to the frailties to which the human flesh is heir. Legislative, administrative and judicial action and interpretation never will attain perfection, but the hope of democracy is that we never will give up striving for its attainment. Government

might well adopt as a basic guide for all of its actions that it will constantly aim to serve general welfare clear across the board rather than to act more or less independently in behalf of this or that group or segment of the economy without weighing the effects on the whole.

Here is where the pressure referred to in the title enters. No one will interpret the wording of the title to imply that pressure groups commonly align themselves intentionally against general welfare. To the contrary the leaders of these groups probably would argue in all sincerity that acceding to their demands will be the most effective way of serving the ends of general welfare. They are not, however, so ready to admit that the demands and actions of rival groups fall into the same category. Pressure groups are established to present the interests of their partisans. We ought not deplore their existence for they are part of the democratic system. The danger lies not in pressures as such but in taking them too seriously and in the failure to use and support statesmanship which will develop from them adequate checks and balances for the protection of general welfare. The remedy is enlightenment rather than elimination.

Reference to some illustrations of how agricultural pressures may work against rather than for the common good should not be interpreted to mean that farm groups are the only sinners. Labor, business, and other groups supply illustrations which are equally good (or bad) but it so happens that our present concern is with agricultural policy.

There are, for instance, the agricultural "fundamentalists" who get all out of patience with anyone unwilling to subscribe to their creed that agriculture is *the* basic industry. They bolster their argument with the fact that the rest of the population would soon starve to death if agriculture suddenly should cease functioning. They do not seem to be equally impressed with the fact that present society, including the agricultural sector, could not last very long without transport, processing, financing, or a host of other functions essential to modern life. The emphasis of these "fundamentalists" on the basic importance of farming would be of no concern if it did not lead them to insist that the *sine qua non* for national prosperity is that of holding up farm prices. One popular notion among the adherents of this belief is that there is some magic in the one to seven ratio. Hold the farm income at 20 billion and presto, the

national income is 140 billion or more. What a comforting philosophy this would be if it only were true. Incidentally, this has a companion in the currently popular claim of labor leaders that the way to assure prosperity is to raise wage rates in order to maintain purchasing power.

The worship of parity price has become a fetish in many agricultural circles. Its title has such a comforting ring of right and justice. Why spoil the illusion by examining the vulnerable spots in its armor? The trouble with this view is that the weaknesses do not disappear because we shut our eyes to them, for, as Disraeli once said, "Ignorance never settles a question." To the objection that parity represents an outmoded relationship among prices, the supporters may have the comforting suggestion that the basic idea is sound but the formula may need to be brought up-to-date. However, the only renovation which will meet with acceptance is one which will adjust up, not down. A formula to measure parity which depends on relationships of the past is basically unsound. It rests on the assumption that there is a fixed relationship among prices to be preserved indefinitely. It assumes no change in efficiency or that changes are equal in all lines. It assumes no changes in demand. It overlooks the longer-run effects on both agricultural and general welfare. Its supporters do not seem to recognize that adherence to the parity dogma leads in the direction of accepting arbitrary price maintenance and the controls which that involves.

But we are told that as long as we are living in a "protected" economy, the farmer cannot be left to shift for himself and that programs to bolster farm prices must go on for that reason if for no other. Granting that the government may have gone quite a way in endeavoring to shield citizens from some of the cold facts of life need not keep us from wondering whether the above opinion does not sometimes rest on an exaggerated view of the gains to others from such activities. Moreover, it cannot be denied that the farmer has shared in the solicitous attitude of the government. Those who speak of the "protected" economy do not as a rule appear concerned about asking who does the protecting and against what or whom the protection is needed. What is the government if not the representative of all of its constituents? It has a responsibility for fair play, to see that the possessors of power do not abuse it by taking advantage of others. It has special concern for the unfortunates who are unable to take care of themselves. But how

far can it go in providing special protection for all? The contention referred to above is itself an illustration of how protection for one group leads to demands for similar or offsetting protection for others. Protection of one may easily be at the expense of another. A more rational approach would be to question and reexamine protection and to eliminate rather than compound that which cannot be justified by its service to the common good.

What sort of a postwar agricultural policy is it reasonable to expect in view of conflicts such as these? Surely one would need to be an incurable optimist to believe that all at once everyone will shed the cloak of narrow selfishness and don the cape of enlightened, intelligent selfishness which recognizes that the only real gain comes from serving the ends of general welfare. However, is not that the star to which we should hitch our wagon in formulating public policy?

One real danger is that we will go on extemporizing and yielding to expediency rather than to take sights and soundings to chart our future course. If we keep on extemporizing and deal with one "emergency" after another that will become our policy because short-run actions are the bricks of which long-run policy is built. We adopt price supports during war because they help assure the all-out effort needed for victory. We extend them for two years beyond a termination date yet unfixed to increase their effectiveness. Demands then arise to extend them for an additional period,² and before we are fully aware of what has transpired we may find that we are so deeply enmeshed in price controls and have created so many dependencies and vested interests in their continuance that there may be no satisfactory point from which to reverse our direction. But if we go on and on, what will the harvest be in terms of regimentation and controls? If we do this for agriculture, will we not be forced to undertake special programs for other groups? How far can we go and still retain real freedom of choice? Can we and will we preserve the essentials of democracy in such a process? These are questions which should cause every intelligent citizen real concern. They need to be faced before we take these steps, not afterwards. Then, it may be too late to do anything about it.

The activities and progress of pressure groups and other combinations are interpreted by some to signify an inescapable trend

² A bill to extend the period to five years has already been introduced.

towards state socialism. Such a view rests on too solid ground to be dismissed as fantastic. Those who view state control as the answer may welcome such a trend. Others who are more dubious about the blessings or efficiency of state operation may find it less cheering. If the aim of each group is to enjoy increasing monopolistic privileges, either by governmental sanction or with governmental aid, at someone else's expense, and such aim is realized, then government will be forced to assume increasing responsibility. For one thing, it will find itself pressed to do so from groups which clamor for governmental assistance in the attainment of their ends. It may be forced to assume increasing control to keep up productive activity or to protect public interest against group avarice.

While this is not an appropriate occasion to enter upon a discussion of the form or functions of government, it may be in order to pursue our analysis one step more. Persons who look with favor upon an expansion in the field of activity assigned to public operation may stress this as a desirable trend because they hold that government will have the common good as its constant goal. They may place faith in the hope that the expressions of the will of the citizen at the ballot box will be an adequate safeguard against any wide departure from that end. Others may be more skeptical on this score and question whether this does not overestimate the rationality of the voter on election day. He may be under stronger temptation than ever to vote for what he may think is special privilege for himself. Do pressure groups whose programs foster government intervention in economic activities have any intent of relinquishing their controls in this manner under state operation? Will they not continue to seek to lead their partisans to support the narrow ends they are after rather than the broader ends of general welfare? May they not be aided and abetted by governmental agencies which desire to maintain and expand their fields of activity? Of course, the assumption of control by government might prove so complete that pressure groups would be outlawed. But, in that event, all pressures including even those sincerely devoted to the welfare of citizens generally, might be wiped out. Such a situation would be a far cry from democratic rule.

Paradoxically, some leaders of groups seeking special treatment are among the most vigorous spokesmen for the preservation of "private enterprise" and objectors to governmental encroachment. They evidently see no inconsistency in such a dual role. Of course,

there may be some leaders who are carrying on their programs with the specific aim of expanding the sphere of political government. They, at least, have the advantage of consistency in their activities and aims. It is no function of this discussion to attempt to lay down any dicta of how extensive governmental participation in economic activities should be. If the citizens want to expand the role of their government, it is within their power and privilege to elect to do so. The danger is that we unwittingly may drift into a situation of government control when many individuals may be imagining that they have charted an opposite course. If we are to avoid this we need to develop public policy on the basis of careful and intelligent thinking about consequences as well as about methods.

It may be that we have moved so far on the road towards state control that some of the best places to veer our course have been by-passed. However, there is still time and room for change, at least of pace if not of direction. Agriculture may be in a strategic place to take the lead in seeking a change. Farm interests might well give more attention to getting other sectors of the economy and government to serve the interests of all rather than to center all their efforts on special gains for themselves. They at least might take time out to appraise prospects with respect to the outcome of present endeavors to obtain special benefits.

The world is in a state of turmoil and unrest, and that supplies added reason why we need to give some careful thought to the formulation of policy. No one questions the position of leadership of the United States among the nations of the world today. That leadership should not be viewed as occasion for boasting. Instead, it ought to be a sobering influence on all of us by filling us with a deep sense of obligation and responsibility to use that leadership as effectively as possible in the development of international cooperation to maintain peace and improve the lot of mankind. It is good sense, not cowardice, which makes us cringe at the thought of World War III. We know that it will be impossible for us to stay out. We know that we have more to lose than any other nation. We know that not only our nation but our way of life and our very civilization will be in grave danger.

Realization of facts such as these lead us to give ardent lip service to international cooperation to maintain peace. We have made a distinct advance over last time in that now we believe in inter-

national cooperation, at least as ideology. What we do not yet see clearly is that our international responsibilities do not leave us free to develop internal or domestic policies without regard to their world consequences. We are blissfully seeking special group gains without weighing their effects on our relations to the rest of the world. Are we going to foster a wage, cost and price structure here at home which will lead us away from rather than into international cooperation? Are we going to wake up to the fact that we cannot uphold the ideal of international cooperation by developing domestic policies which lead away from working with the rest of the world?

The question of what sort of an agricultural policy we adopt is inescapably linked with the future of the world. We are acting blindly. We are behaving without reasonable intelligence. Does not that pose a real challenge? Do we not need to develop statesmanship in both government and group leadership which will formulate policies that will serve our larger and longer-run interests?

It is not the purpose here to attempt any forecast of what the future has in store. In emphasizing the problems and difficulties ahead, however, we will err if we do not realize that the clouds we see ahead have some silver linings. Our form of government and our way of life have shown remarkable resiliency in the past in adjusting to change. The large mass of the citizens of this country and of the entire world are fairminded and reasonable human beings. Clearly, this is no time to sink into despair. It is the time to go to work in attacking problems with intelligence, foresight and courage. Social scientists have a special responsibility of helping through research and teaching in the development of the intelligence and understanding which are essential to the formulation and adoption of sound policy.

CHANGES IN ECONOMIC STRUCTURE AFFECTING AMERICAN AGRICULTURE*

THEODORE W. SCHULTZ

University of Chicago

IT IS fitting that agricultural economists should take stock at this time. Six years of war has placed its curse upon the world. The seeds of hate and intolerance have been widely sown and cultivated. Destruction and disorganization have blighted much of Europe and the Orient, leaving many nations and hundreds of millions of people exhausted and confused. Finance and trade await reconstruction as we, more fortunate than our allies and ex-enemy countries, face the task of redetermining our interest and responsibility in foreign affairs and of making the transition to peacetime jobs and markets. What will be the aftermath of World War II? Has the war altered the economic structure of our society? And what of the reconstruction underway? Can we discern new patterns that are likely to persist?

In this brief paper I shall explore these and related questions by addressing myself to *changes in economic structure*, limited for the most part to those changes that affect American agriculture. This sharply narrows the problem at hand. It means I shall leave aside questions pertaining to policy and programs except as these are directly involved by structural changes. By structure I mean those conditions that are commonly assumed as given by economists in their more formal or theoretical work. My observations are exploratory and of necessity largely qualitative in character, for data are not at hand to do otherwise.

Has the war altered significantly the economic structure of these United States, or has it for the most part simply accelerated structural changes already underway? My guess is that it has been chiefly the latter. Once we have gained historical perspective we may well find that the war has not introduced any important new structural changes as far as American agriculture is concerned. We are, I believe, prone to make altogether too much of the impact of the war. The basic forces reshaping agriculture in this country have not been diverted or even altered appreciably. We fall into the error of over-emphasizing the war largely because we are still too

* A paper presented at the annual meeting of the American Farm Economic Association at Chicago, December 27, 1945.

near to the events associated with the war. For several years farm prices have been pounding hard against their ceilings. Food has been in short supply and the balance of economic and political forces has given agriculture high prices and large incomes. These developments have bred much optimism—an optimism which assumes that with our new found employment, productivity and income, farm people will continue to prosper with the best of them. I do not wish to imply here that the war has not occasioned important achievements in production, savings, and in the capital position of farmers. The prices of both products and factors have been inflated somewhat. Incomes have jumped markedly in money terms and also a little in real terms despite the heavy drain placed on our economy for materials and services for war. But these rises in prices and incomes do not necessarily mean that our postwar economy will differ radically in structure from prewar. The economic and political framework in which agriculture functions has undoubtedly changed somewhat but these changes are not new ones. Instead they are extensions of much older patterns, old in the sense that these changes in structure had been underway long before the war.

In this paper I can do no more than suggest some of the main elements of the problem associated with structural changes in our economy affecting agriculture. I shall make this limited survey, however, in terms of political economy—that is, within the political framework of our society with its distribution, organization, and use of political power. Unfortunately most of the data, and for that matter most of the concepts which are available and which we use in farm management, marketing, and land use, are not very helpful or illuminating in analyzing the role of agriculture in our political economy. They were obtained and formulated for other purposes, certainly not for the most part to analyze the primary relationships that exist between agriculture and the rest of the economy. Without further lament, however, I shall turn to a consideration of the economic structure affecting agriculture.

Obviously it is necessary to select from among the many variables in structure those that are important and have changed. The growth of population, shifts in taste of consumers associated with urbanization, advances made in the conservation of natural resources, intensification of controls over farm prices inherent in support price commitments, improvements in the skills of the labor force, attainment of sufficient demand to keep resources fully em-

ployed—these and other developments must each be deemed significant. I propose, however, to cut across this classification of the components of structure by probing two general questions related to our agriculture:

1. Is American agriculture a declining industry?
2. Does the administration of our agricultural economy require more government participation?

I have purposefully put these questions in a very broad context for I do not want to rule out political considerations. They do, I believe, focus upon economic structure as an integral part of political economy. What can we learn from our wartime and pre-war experiences that they throw some light on these issues?

I

Is agriculture a declining industry? The answer is *yes* in one significant sense: It takes, in absolute terms, less and less human effort to produce all of the farm products demanded by the economy served by American agriculture. The crucial fact is that fewer people are needed in farming, even with full employment, high incomes and large exports, and this is true despite the large natural increase of the farm population. This decline in the labor force in farming does not mean that agricultural production is decreasing or is likely to do so. Nor does it mean that the demand for farm products is falling; the contrary is true when income and population increase.

During the four decades preceding World War II the following structural developments were occurring:

1. The expansion in agricultural output occurred at a much slower rate than that in other major industries, namely¹—

		<i>Increase in output</i>
Agriculture	(1900 to 1939)	60 per cent
Mining	(1900 to 1939)	240 per cent
Manufacturing	(1900 to 1939)	267 per cent
Public utilities	(1899 to 1939)	310 per cent

¹ From Solomon Fabricant, *Labor Savings in American Industry 1899-1939*, Occasional paper 23. National Bureau of Economic Research. Appendix tables. Figure for public utilities is estimated from data on pages 21 and 30.

2. The increase in production per worker was quite similar in agriculture and in other major industries, namely²—

		<i>Decrease in Employment per unit of product</i>
Agriculture	(1900 to 1939)	48 per cent
Mining	(1902 to 1939)	61 per cent
Manufacturing	(1899 to 1939)	50 per cent
Public utilities	(1899 to 1939)	50 per cent

3. These increases in output and the increases in labor efficiency resulted in a decline in employment in agriculture and in an expansion in other major industries, namely³—

		<i>Decreases and increases in labor force</i>
Agriculture	(1900 to 1940)	— 18 per cent
Mining	(1900 to 1940)	+ 37 per cent
Manufacturing	(1900 to 1940)	+ 92 per cent
Public utilities	(1900 to 1940)	+105 per cent
Other industries	(1900 to 1940)	+209 per cent

These facts are, I believe, generally acknowledged and accepted, not only by economists, but also by citizens, farm leaders, and public officials. Agriculture, however, has been declining much more rapidly in its economic than in its political potential. This latter fact has not been made sufficiently explicit, nor are its consequences fully understood. This growing disparity between the economic and the political position of agriculture is causing more and more tensions and stresses within our government, expressing itself primarily in conflict with regard to policy objectives between the legislative and the executive branches of government.

The war quite obviously did not put agriculture into its state of decline, although the proportion of the nation's labor force engaged in farming dropped from about 20 to 15 percent, as the farm population fell from around 30 to 25 millions during the war years. Agricultural production per worker in 1944 was 35 percent above 1939

² Solomon Fabricant, already cited, p. 21.

³ Solomon Fabricant, already cited. Based on table 9, p. 30.

as compared with an increase of 33 percent for industrial production.⁴ The redistribution of the nation's labor force occasioned by the mobilization for war has simply put one of the major structural changes in process in our economy into much sharper relief.

The causes for the decline of agriculture are also quite evident. They may be stated thus: The demand for farm products rides on a low tide—the result of the slowing down of the growth of population and the low income elasticity of farm products. The supply of farm products, however, rides on a high tide, swollen by technological advances. Out of the interaction has come the significant fact that *a declining amount of human effort is required to produce all of the farm products demanded by those who depend on American agriculture for food, feed and fiber.*

How long may this decline proceed? Although the end is not in sight, the following conditions will determine how long it will continue, that is, determine the number of persons who will have to leave farming if our economy is to approach an equilibrium in the distribution of the nation's labor force:

1. The rate at which labor saving practices and techniques are introduced and capital is substituted for labor in farming—the lower this rate, the fewer the people that will find it necessary to leave farming;
2. The rate of growth of the demand for farm products (fuller employments, larger exports, more industrial uses of farm products, better diets, larger population)—the higher this rate, the smaller the necessary movement of people out of farming;
3. The rate at which farm people reduce the number of hours they work per year (modal group for March 24–30, 1940 was 60–69 hours in agriculture)—the greater the rate at which free time and leisure are introduced the fewer the persons migrating from farms; and
4. The rate of the natural increase of farm people—the lower this rate of increase the less the necessary movement off farm.

No one, I am sure, is prepared to contend that we will have no more technological advances in the efficiency of human effort in farming. On the contrary, much of the work of this group is designed to help farmers to become more efficient. Surely, our govern-

⁴ USDA, 1946 *Agricultural Outlook Charts*, p. 15.

ment will spend even more millions of dollars in researches and in the dissemination of the results to insure further the efficiency of farm people as producers. But there are those among us, who although mindful of the advances that are being made on the supply side, believe that the decline of agriculture would not occur if we achieved full employment and a vigorous foreign trade. No one would deny that the loss in opportunities to trade and the depressed conditions of American consumers during most of the thirties reduced the demand for farm products very considerably. But the experiences of the last few years indicate that full employment and larger exports tend to accelerate more efficient practices and techniques in farming. In 1910 nearly a fifth of the national income was contributed by agriculture and the farm population constituted more than a third of the total. Is there any one so brash as to contend that full employment and trade all the years since 1910 would have prevented or even have tempered the decline that has occurred in agriculture? All the evidence, I believe, points in the opposite direction. The labor force in agriculture today would be substantially smaller had we not experienced the Great Depression.

Without any intention of making a forecast let me ask: What would happen to agriculture if this country were to achieve essentially full employment and freer trade for the next two decades? Would not the number of farms, especially in the overpopulated rural areas of the South declined very considerably? Under a more perfect combination and organization of resources, four million family farms might well be more than enough to satisfy the demand for farm products. The farm population and the labor force in farming would drop substantially, the latter perhaps to as little as one tenth of the country's labor force. In general, for the United States, the following generalization appears valid: *Fuller employment and freer trade hasten the decline of the labor force in farming, the size of the farm population, the relative portion of agricultural production and of income from farming.*

What matters, however, are the rates of return which land, labor, and capital employed in farming earn relative to the earnings in other fields of economic endeavor. How does the fact that agriculture is declining affect these rates of return? It depresses them. It holds down the rates of return primarily of labor resources in farming. Both hired and self employed farm people earn, as a consequence of the state of decline which characterizes agriculture, relatively low income per person.

An expanding industry pays enough to attract additional resources, and when the entry of more capital and labor is checked by management and unions, rates are forced all the higher and thus out of line. Meanwhile, a contracting industry like agriculture, burdened with an excess supply of resources consisting mostly of labor, earns very little, so little that people are induced to leave farming, and when the exodus of capital and labor in agriculture is checked by state laws, traditions and the failure to prepare the farm youth for other occupations, the rates in farming are forced down all the more thus widening the disparity. Despite the overall adverse pressure on agriculture, new technology, however, has made much new capital highly productive. Thus we actually get a two-way movement—(1) people leaving agriculture, and (2) capital still moving into agriculture. The burden of structural contraction is thus borne primarily by labor resources in widespread underemployment and very low earnings per person. Most of agriculture is accordingly chronically depressed in terms of income earned. Here is one of the basic consequences of a declining industry whether it be coal mining, fishing, lumbering, or farming—namely, low earnings per person.

Despite the current optimism, this decline of American agriculture has not run its course. Many millions of farm people are still at a great disadvantage, especially in our overcrowded South, although many parts of the Corn Belt, the milk sheds, and fruit growing areas, are in much better adjustment as a result of the heavy movement of people from farms in recent years. A further redistribution of the nation's labor force, therefore, will be needed, with enough people leaving agriculture to bring the rates of return for human effort in farming more nearly on a par with returns for comparable work in other fields.

Let us not overlook another major consequence that flows from this change in economic structure. Not only is agriculture generally depressed as a result, but the prices of farm products are also depressed. This should be self-evident. Let us suppose that agriculture were confronted with a deficit instead of an excess supply of labor resources and that the earnings of persons in agriculture rose enough to induce people to leave other occupations in order to work on farms. Some notion of the increase in farm prices that would be required becomes apparent.

The decline of agriculture in terms of population, labor force, relative income and other economic characteristics has occurred at

a much more rapid pace than it has in the political sphere. The lag on the political side arises primarily from the delays and failure to reapportion political representation to match the redistribution of the population. The results are most clearly expressed in Congress when contrasted with the Presidency. Accordingly, quite regardless of parity, Congress is heavily weighted in favor of agriculture; this political disparity is becoming greater, and it does affect adversely the performance of our government.

II

Does agriculture require more administration by governmental authorities? Since this issue touches deeply held values, few choose to look at it dispassionately. Yet hard as it is to do so, try we must. It is better to start with descriptive data than with pure models. Our general working knowledge tells us that agriculture is essentially a *mixed economy*. It certainly is not of a pure type, but a combination of three types. Some of the economic operations in agriculture are strictly domestic in nature, namely, the productive efforts that serve the farm household. But it is a fact that the domestic economy within agriculture is contracting as farmers become more dependent upon sales and purchases. The market economy bulks large, especially for that half of American farmers who produce most of the products entering commercial channels. Meanwhile, notably during the inter-war period, the role of the state has expanded markedly. What we have accordingly in agriculture is truly a mixed economy, consisting of *a combination of domestic, market, and state institutions* to administer the allocation of resources.

Who among us would contend that we have not been undergoing a profound change in the organizational structure for coordinating the decisions of economic units? This change was underway long before the war started. In fact, its tempo, if anything, appears to have slackened somewhat during the war years. Judging, however, from the cursory and superficial attention this development has received in our researches, one might infer that this change in structure is of minor importance.

Leaving aside the contraction of the domestic economy, the coordination of the decisions of our farms into some consistent whole has been transferred increasingly from the market to federal agencies. Surely it is not necessary that I list the long array of such agencies and the numerous economic functions they perform. The costs of their activities has risen from about \$120 millions in 1930

to around \$1,200 millions annually. To guide, coordinate and direct the uses to which resources are put in agriculture, our governmental agencies employ cash payments and penalties, render services and supply materials for production, fix quotas, and assume some of the risk and benefits associated with yields and prices. The list of techniques used by them is long, including acreage allotments, commodity loans, price supports of various kinds, payments for soil building and conserving practices, grants and aids for technical assistance in production, provision of materials to destroy weeds, insects, pests and payments to lessen erosion, soil depletion, and to alter other phases of production operations. Negative rewards are also used as is the case when penalties are assessed for the sale of products in excess of an established quota. Then, too, there are payments by the state which are added to the market price of the product for the purpose of aiding farmers in making a difficult transition in production, to adjust production to pre-established goals, or to counteract the adverse effects of business fluctuations upon the income from farming. Payments have also been made to lower the interest rates on funds employed by farmers. This list does not, however, exhaust the measures that the state employs in administering aspects of the agricultural economy.

The inference to be drawn from this growth in state activities which we have experienced is simply that the conditions of agriculture during the interwar years required much additional state action. To put it another way, these federal administrative agencies were born out of a necessity as critical problems arose requiring a type of economic management which the market and the domestic economy could not provide. It presumably was an emergency period. And the same can be said for the measures that were taken to manage food and agriculture during the war.

We now have all of this administrative machinery, both that which was established during the war and that developed before the war. With no war and with no prewar emergency, does agriculture require more than a minimum of administration in the economic sphere on the part of government? Isn't the stage set for a quick return to an essentially pure market economy in agriculture?

I wish it were possible to discern the answer clearly and with certainty. If this were possible we could make firm one of the most important factors in our economic structure. But no ready answer is at hand.

It is, of course, not difficult to show that the Department of

Agriculture by virtue of its legislative mandates and machinery is now primarily backward looking. It is tied to an obsolete set of price relationships and hamstrung by a two-year support price commitment in its market operations and by the Tarver amendment in its farm ownership program. The USDA is obviously in a kind of straitjacket, the result of policies and programs designed for the thirties and the war years. This inflexibility on the part of the USDA will soon create a series of farm problems, for it will bring about surpluses instead of equating supply and demand, and it may worsen appreciably the income of agriculture. But to show, no matter how effectively, that the existing legislation, policies, and programs and the agencies established to administer them are largely out of date, because of their emergency and wartime setting, does not tell us whether or not agriculture will require little or much administration by government agencies from now on out.

The only way I know of getting at the parameter of this issue is to speculate with regard to the types of major problems affecting agriculture that are likely to arise, and then try to ascertain to what extent these problems are manageable under a pure market economy. First, let us survey briefly developments outside of agriculture which affect the economic wellbeing of farm people. Undoubtedly many farm people are asking themselves the following question: Dare agriculture produce abundantly? The stock answer currently would appear to be: With full employment and a national income of \$150 billion, American agriculture would do well to produce all that it can, in fact more than it has during the war. To which a recent government publication has added this soothing touch—farm prices will equal exactly 100.0 in terms of parity!

To achieve full employment most economists have in recent years put all of their reliance on the efficacy of income, that is, on the income effects to be had from an avoidance of any overall deficiency in demand. The objective then becomes one of keeping the demand for the economy as a whole large enough to employ all resources and absorb all advances in technology. To attain this goal primary emphasis has fallen upon fiscal-monetary policies. With the government in firm control of the fiscal-monetary machinery, it is felt that the rest of the economic decisions can (presumably) be left to private businesses and household units.

But can a fiscal-monetary authority (which, of course, we do not have as yet) carry the entire load of achieving and maintaining

high production? More specifically, is it prudent to expect modern big business establishments, organized labor, and agriculture to adjust relative prices so that all resources can be fully employed, given a favorable overall demand structure? The answer is clearly in the negative. It is not sufficient to use only income measures in laying out high strategy for the mobilization of our economy for full employment. Price measures must also be made a part of overall policy, in my judgment, if we are to achieve this goal. Economists would do well to pause and ask themselves why it is that relative prices have been so completely neglected in the formulation of economic policies. Might it not be that the present overemphasis on income has arisen from the fact that economists have not as yet succeeded in integrating their price and income theories?

To the question then, "Dare agriculture produce abundantly?" it may be observed: (1) we do not have a fiscal-monetary authority to keep the aggregate demand from becoming either excessive or deficient, and (2) fiscal-monetary measures, while necessary, will probably not be sufficient to keep the American economy in full production. The implications of these two observations are that income from farming is likely to continue to be unstable as a consequence of expected fluctuations in business unless measures are taken to safeguard agriculture. To give agriculture this protection I have proposed a system of compensatory payments that are counter-cyclical in their effects.⁵ Such payments obviously would have to be administered by the government.

Still another implication grows out of the expected imperfections in relative prices, wages, and profits, because of the economic power of business firms, labor unions, and other non-governmental units. These expected imperfections are likely to check production in some major field and thus force more resources, especially labor resources, to stay at farming than the dictates of a full use of resources in the economy as a whole would require. Under these conditions agriculture would find itself in a two-way squeeze. On the one hand the prices of the products that farm people buy would be higher than is consistent with high production in industry. And on the other hand the earnings of the people engaged in farming would be beaten down by the failure of industry to expand sufficiently to absorb the excess supply of labor in agriculture. It is

⁵ See Chapter X of my book, *Agriculture in an Unstable Economy*.

very doubtful indeed that, given the economic power that is at present vested in private groups that a pure market economy can bring about the necessary movement of resources to more nearly equalize the earnings of people in a region like the South with those obtained in other sections of the country. To solve the problems associated with depressed areas it is not sufficient to rely only upon fiscal-monetary measures and on the structure of relative prices made by the decisions of private firms, unions and others. Much of the task will have to be borne by government.

Nor can a pure market economy handle the many problems confronting world trade including agricultural imports and exports which continue to be important despite vested interest to the contrary. The advances made in getting public acceptance of trade agreements and the new efforts for multilateral trade by the State Department should not go for naught. Unfortunately, however, agriculture has become wedded to a price policy which could not have been better designed to destroy trade. Already cotton and wheat farmers, once a bulwark against protectionism, have a vested interest in dumping and price discrimination. The reorganized USDA is an open invitation to commodity interests to seek and acquire special advantages. Unilateral actions are one of the very undesirable products of this new commodity focus. Meanwhile, the community of nations has not become settled, so soon after the upheavals caused by World War II. Insecurity in the international field, for many years, will be a major condition adversely affecting trade, especially the reconstruction of liberal trade arrangements among nations. To the extent that political security overshadows considerations of economy, liberal trade practices and techniques suffer, and more of the operations of supplying capital, assuming risk, setting terms of sales and of purchases fall upon government authorities.

In closing, it is necessary to at least acknowledge the role of government within agriculture. Can conservation be left solely to market forces? The answer, of course, is no. Will a market economy provide stocks and storages necessary to stabilize our gigantic livestock industries? Again the reply is in the negative. What about credit, housing, farm ownership, medical facilities, education, research and experimental work, old age and retirement opportunities? None of these can be left wholly to the market economy. What about yield and price uncertainties confronting farmers? Crop in-

surance by government, yes. Forward prices with production goals for at least one production period ahead? On this some are undoubtedly uneasy, yet I expect it will prove to be a function which government will be required to perform. What about increasing the per capita economic productivity and hence the earnings of farm people in our great depressed regions? Here, certainly government action will be required.

These exploratory remarks suggest these conclusions: At least two primary changes in economic structure affecting agriculture are underway. One of these arises from the fact that agriculture is a declining industry; and the other is, I believe, also a fact that agriculture is requiring more economic administration by government although in general not of the prewar emergency and war-time forms. Both of these developments—the decline of agriculture and the greater participation by government—entail very comprehensive and important structural changes, both had their head long before World War II, both are likely to continue to be significant developments in the postwar years ahead, and both imply changes in positions and practices adverse to the hopes, values, and the outlook of most agricultural economists. We must for that very reason, be on guard that we are not wearing blinders that keep us from seeing what we prefer not to see happen. Herein lies a grave danger to our intellectual work.

SIXTY MILLION JOBS AND SIX MILLION FARMERS*

FRANK A. PEARSON AND DON PAARLBERG

Cornell University

AN INCREASING number of persons explain fluctuations in prices of food and other farm products by variations in demand. This theory states that farm prices are dependent upon full employment, wages and payrolls.¹ This new interpretation enters an area in which economic theories have flourished and faded in bewildering succession. The complexity of agriculture makes it a fertile field for new theories. The upheaval which roots out one of the theories plows the ground for the next.

With passing time these theories have sought to buttress five evolving and conflicting premises: first that all prosperity sprang from the soil, then that monopolies made prices, then that prices of food products were dependent upon supplies of money, then that the well-being of the farmer was dependent upon scarcity, and more recently, that it was dependent upon wage earners. The authors propose to examine these various theories, particularly the current one, and to present the thesis that farm prices are dependent not on one but on many factors and that these factors are worldwide rather than national. The idea that changes in wages cause changes in farm prices may have been originated, and certainly was popularized, by government agencies in Washington. Proponents of the wage-price theory, after charting the parallel course of wages and farm prices from 1929 to 1932, concluded that the way to insure farm prosperity was to increase the pay envelope of the wage earner. This snowball of thought started rolling down the smooth slope of falling prices gradually gaining in size and momentum. It rolled right through the trough of the depression and up the other side and by November 1945 even President Truman was contending that wages should be raised substantially to prevent disastrous deflation.² The current theory that farm prosperity is dependent on a high demand for food which in turn is dependent on a high level of wages and full employment has gained such uni-

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¹ The term "demand" is here used in the general and popular sense. A typical paraphrased illustration follows: Current declines in factory employment, wages and payrolls are expected to cause a recession in the domestic demand for food and a decline in food prices.

² *New York Times*, October 31, 1945, page 1.

versal acceptance by farmers, farm leaders, businessmen and politicians that an inquiry is long overdue.

The serious-minded student with a statistical bent would inquire whether the striking association between wages and prices was spurious or causal. He might see whether he could find other periods when wages and prices fell together. If he found repeated illustrations of this phenomenon, he would then inquire whether (a) wages caused farm prices, (b) farm prices caused wages or (c) both were a result of some other cause or causes.

If he had looked back over the shoulder of time, he would have found no consistent long-time relationship between wages and food prices in the United States. From 1929 to 1932 prices of food and payrolls in the United States were more than halved. Farm income was also more than halved. However, from 1880 to 1896 these relationships did not hold. Wages rose 15 per cent and farm income per capita declined 18 percent. Our food prices and price level fell by almost one-third. When prices collapsed after the Civil War, our food prices fell 23 percent but wages rose 15 percent. From 1840 to 1849 wages rose 9 percent and prices fell 14 percent.

If the student had looked through the pages of history to note prices and wages in other countries, he would have found no consistent relationship between the two in foreign lands, nor would he have found experience consistent with that in the United States. During the Great Depression of 1929-1932 wages in England fell 4 percent and food prices 28 percent. The rates of decline for Germany were 20 and 31, and for France 4 and 23 percent, respectively. In general, one might conclude that during this period the direction of movement for wages and prices was the same in the various countries, but the rates of change were different.

For the earlier period, 1880 to 1896, not only the amplitude of changes but their direction was different. Wages in the four countries rose from 12 to 26 percent, while the price level fell from 17 to 32 percent. Following the Civil War the price level in England fell and wages rose. From 1840 to 1849, wages rose relative to prices in both England and the United States. A student giving careful thought to the historical lack of agreement between wages and prices might have concluded that the close association observed in the United States from 1929 to 1932 was a spurious one.

Another student might assume the existence of a relationship

and look no further than 1929-1932. In that event he might look into the question of which was cause and which was effect. If he looked over the literature of the first quarter of the twentieth century, the student would have found that all prosperity sprang from the soil. If the farmer was prosperous, this prosperity somehow or other followed the hogs to market and the pork chops to the retail butcher shop and everyone along the way was exposed to and infected by the prosperity virus. When farm prices were high, the farmer's demand for goods and services was high and resulted in high, but lagging wages. In the light of these opinions the conclusion that farm prices made wages would not have been unreasonable. Or the student might have been impressed with the absence of factual support for the thesis that wages were dependent on food prices.

During and immediately following World War I, the literature carried much discussion on the part of laymen of the effect upon business and agriculture of the Federal Reserve policy, discount rates, the amount of money in circulation and the volume of credit. There was also a great outpouring of books on the part of professors of money and banking dealing with this subject. In brief, it probably would have appeared to the student that the supply of money played a predominant role in explaining the course of farm prices. Reading further the student might have learned that in 1932 a huge volume of credit was pumped into the banking system in a futile effort to raise farm prices. From June to August of that year farm food prices rose from an index of 60 to 67. On election day, however, they were almost back to the old level. The careful student would probably have concluded that money might have had some effect but that it was not the entire answer.

Throughout the discussions of the period were comments that prices were arbitrarily set by the meat packers, the milk trust, the New York Cotton Exchange or the Chicago Board of Trade. The student, of course, gave these ideas only passing consideration. There was much discussion of the unemployment situation but none concerning the price-wage controversy.

In reviewing the literature of the early thirties, the student might have been impressed by the theoretical and popular discussions of the idea that low prices were a result of overproduction. It was believed that by reducing production prices could be raised sufficiently to increase farm income. Academic support was rallied

to this belief by the agricultural economists of the day. The student might have noted that this was the first organized effort to explain not only farm prices but farm income in terms of the single factor—supply. He might have been astounded by the general acceptance of the idea in spite of its readily demonstrable fallacy.

In passing, the student noted a Stamp Plan that presumed to remove the farmers' surplus, improve the general level of nutrition, bolster the consumers' demand for food and increase the volume of food handled by the middlemen. He questioned whether this plan would solve the agricultural problem, but concluded that the farmers, the trade and the consumers would all be for it.

So many ideas have been advanced to explain prices and so many had been disproved by later events that an intellectual vacuum had been created. Into this vacuum rushed the next idea—that income made prices. The contention that supply made prices had been largely discredited by the events of the thirties and attention was now turned to demand as the causal factor. Many believed that high national income meant high demand for food and that therefore people would either (a) eat more food at the same price or (b) eat the same amount of food at a higher price. Enthusiasm for the national-income idea never became widespread outside the white-collar class, probably because of the vagueness of the expression, national income. Some expressed the opinion that national income was not a cause but a result. Estimates of national income were obtained by multiplying the amount of goods and services by their prevailing prices. The careful student would probably have concluded that when one compares farm prices with national income, he is comparing farm prices with other prices and they should, of course, look somewhat alike.

Reading that wages of laborers comprise close to three-fourths of all the non-agricultural income, the keen student would immediately observe that this was an idea which the common man could understand and which might have great political possibilities. He could and it did. Reading further he noted the rapid growth of this idea. Popular opinion on the explanation of prices became as nearly unanimous as at any time in our stormy price history. The student concluded that the economics of scarcity had now given way to the economics of abundance. Prosperity, like the famous San Juan River in Central America, had reversed itself. Formerly, prosperity flowed from the farmer to the city. The cur-

rent theory had it flowing from the consumer to the farmer. If urban dwellers were prosperous, somehow or other the prosperity passed back to the middleman and eventually to the farmer.

Being of an analytical turn of mind, the student noted that when the nation was predominantly agricultural, agriculture was assumed to inaugurate price changes, but that when the nation became industrialized, the cities became the causal factor. He noted the tendency to explain prices by whatever there was the most of. He had no difficulty in justifying these changes on the part of the man in the street, but why intellectuals and particularly agricultural economists endorsed these changing ideas was not so clear to him. The student might have concluded after a digest of this literature that the demand for food was a factor affecting price, but might have questioned whether it was the basic cause inaugurating these changes and whether the welfare of the farmer was solely dependent upon the wage of the city worker.

He would, of course, have observed that down through history economists have contended that both supply and demand affected prices. He would also have observed a group of economists, not so large, who held that in addition to supply and demand, monetary factors affected the general price level which in turn affected food prices and consequently farm income. He also noted in passing that our legislative programs seldom took into account the whole picture and usually operated on one factor at a time.

Here and there in the literature, there was some discussion of the role that world supplies of and world demands for commodities and money played in world prices. The student observed that advocates of this idea did not explain price in terms of supply of commodities alone or demand for commodities alone or supply of money alone. Nor did they explain prices in terms of any one factor for any one nation. He might then have concluded that possibly both wages and farm prices were the result of some combination of these or other causes.

The analytical student with a sufficient amount of data at hand would have no difficulty finding evidence to lend partial support to each or all of these many ideas which had prevailed during the previous half century. It is easy to demonstrate that during World War I commodity prices rose with bank credit, that the price of wheat was once related to international prices, that a large crop was associated with a low price or that during the Great Depres-

sion falling prices were associated with falling wages and employment. The primary problem in price analysis is to determine which of these forces are important and which are secondary.

International Comparisons

When enough commodities are studied over a sufficiently long period of time in an adequate number of different countries, it becomes evident that the major forces³ affecting the price level are international.

Countries with like currencies have like price levels.⁴ For three-quarters of a century the price levels in the United States and England followed a similar pattern. They fell together in the seventies, eighties and nineties, rose from the turn of the century to 1920 and fell together in 1921. Prices in other countries followed the general course of prices in England and the United States.

Since price levels in various countries are comparable, an index number of world prices, including the United States, was constructed. The United States price level followed this general pattern. As there may be some criticism of comparing United States prices with an index of world prices including the United States, an index was prepared excluding this country. A comparison of this index with prices in the United States for about three-quarters of a century indicates that the two followed a similar course.

Prices of farm commodities in the United States move with the general level of United States prices which are affected by the same forces that cause prices to change in other countries. For a century our wheat prices have followed the world price level. When world prices rose our price of wheat rose, when world prices fell the price of wheat fell. From the forties to the seventies wheat prices followed the upward course of the world price level. From the seventies to the nineties they fell with the world price level. During the twentieth century wheat prices rose and fell with world prices. During the early thirties the world price level declined to the low

³ These forces are world supplies of and demands for commodities and money. They will not be analyzed because of limitations of space and because a discussion of them would constitute a digression.

⁴ International price comparisons presented in this paper take into account changes in the exchange value of currencies. This method of comparison was chosen because it illustrates the principle of internationally related prices and avoids the discussion of depreciated currencies. However, the relationship of the price level in a country to the world price level is not abrogated if that country's currency is changed, as its price level continues to be tied to world prices but at a new level.

levels of the nineties as did the price of wheat. Monetary action was advocated to counteract these low prices. In 1896 Bryan expressed the protest of the middle west against low farm prices in his campaign for free silver at the ratio of 16 to 1, and in the thirties Roosevelt proposed monetary changes.

The year-to-year variations in wheat prices were much more violent than those in the world price level. The price of wheat was generally low when crops were good and high when crops were short.

Prices of cotton, our greatest international product, fluctuated with the world price level. During the forties and fifties cotton rose with, but somewhat more than, the world price level. Cotton prices fell with the great worldwide price decline from the seventies to the nineties. The forces that caused world prices to rise from 1896 to 1920 carried our cotton prices with them. During the Great Depression of the early thirties cotton prices fluctuated about the worldwide pattern.

Cotton, like wheat, fluctuated more violently than did the world price level. These deviations from the world price level were due primarily to changes in the size of the crop and secondarily to the demands for cotton in this and other countries. During the Civil War cotton prices in the North rose to \$1.79 per pound. There were times when cotton sold in the North for about fourteen times as much as in the Confederate States.⁵ This illustrates how prices of a farm commodity can vary from the world price level when transportation is disturbed.

From 1929 to 1932 the New Orleans price of middling cotton fell from 20.0 to 5.2 cents per pound. It fell with world prices, but the southern farmers held that the low prices were due to overproduction in this country and the only solution was to reduce production.

Some will contend that prices of wheat, cotton, pork and beef fluctuated with the world price level because of their former prominence in world trade, but that products which did not enter into international trade did not follow the international pattern. Potatoes, which were produced and consumed in this country and did not enter into international trade, fluctuated with the world price level. They rose when the world price level rose and fell when it fell. The fluctuations in prices were dependent on the size

⁵ J. O. Schwab, *The Confederate States of America*, 1901, p. 175.

of the crop. The violence of the fluctuations in the price of potatoes was much greater than was the case for wheat, primarily because potatoes are a perishable annual crop which cannot be stored. A short crop was doled out by the price system at high prices and the public was encouraged to consume a large crop only with the inducement of low prices.

Eggs, a product largely produced and consumed within the country, fluctuated with the world price level. New York milk prices also moved with world prices despite the fact that the milk was produced in New York State and largely consumed in New York City. Most of this milk was shipped less than 300 miles and almost none entered into international trade. During the nineties and the first fifteen years of the twentieth century, these prices were dictated by the milk trust. Prices were announced six months in advance and the farmer had only the alternative of taking it or leaving it and he generally took it. From World War I to the early thirties New York milk prices were negotiated and bargained by distributors and producers. Since then, except for about a year, milk prices have been administered under various state and federal orders. Whether these prices were dictated, negotiated or administered, they moved with the general pattern of world prices. The same was true for other markets.

Prices of farm products apparently fluctuate with the same forces that make world prices. Whether these commodities were a cheap cereal such as wheat or an expensive livestock product like milk, an international fiber like cotton or a local cheap food like potatoes made little difference.

The forces that make world prices have great effect upon the general trend of all prices over long periods of time. They have less effect upon fluctuations in the price of a particular commodity over a short period of time. Yet these forces determine the level about which the short-term price changes occur. The bell-buoy riding at anchor in the harbor rises and falls with the wind, the waves and the tide and some of these movements arouse the clamor of the bell. The level of the sea, however, determines the level about which the buoy is tossed. The difficulty of understanding the importance of world forces is traceable to the brevity of human memory and man's preoccupation with affairs close at hand. Man's explanation of phenomena must be in terms of what he can see. As his horizon is extended, his explanations broaden. In early

times prices in the community were considered to be the result of local forces. Later national forces were considered to be of importance in explaining local prices. As our vision broadens the relation of national and local prices to world prices will become more evident.

It might be assumed that if prices of farm products moved with world prices, wages might also move with world prices. During the last three-quarters of a century commodity prices in the United States and England moved together and moved with world prices. Wages in the United States, however, did not move with United States commodity prices. In 1800 wages were less than one-fourth of the level of prices and in the nineteen-twenties wages were about fifty percent higher than prices. It was only during the great collapse from 1929 to 1933 that there was a major decline in both prices and wages. Wages in England did not move with her commodity prices. Furthermore, wages in neither country moved with the world price level.

Although wages in both England and the United States rose, they did not advance at the same rate in the two countries. If wages in these two countries made their respective commodity prices, then prices in the United States and England should have been different. Actually they were similar.

While there is little evidence that wages make prices, there is much to indicate that prices are one of the factors which determine wages. Wages in any country maintain an approximate relationship to the level of prices, from which they deviate according to the efficiency of labor. From 1840 to 1914, the purchasing power of wages in the United States increased at the rate of 1.71 percent per year, which was about the same as production per capita, 1.73. The rate for England was somewhat less.

Demand Studies

Another approach to the question of the effect of domestic demand upon food prices may be made from an appraisal of studies of consumer expenditures for various food products. The theme of these studies is that as income goes up "demand" rises, the consumption of the highly prized foods increases rapidly, while consumption of cheaper foods, such as wheat products, decreases. Therefore, it was reasoned that if individuals acted according to these ideas of "demand" the nation as a whole behaved in this

manner. Many contend that if wages, and therefore "demand," rise, (a) the nation will eat more meat at the same price or the same amount of meat at a higher price and (b) the nation will eat considerably less wheat products at the same price or the same amount at a lower price. If wages and therefore "demand" fall, the situation is reversed. What, then, should be the outlook for agriculture if "demand" is high? The livestockmen should be in a favorable position and the wheat farmer in an unfavorable one. Conversely, when wages decline and "demand" is low, the wheat farmer should be optimistic, while the livestockmen would be in difficulty.

These theoretical considerations have not been supported by experience. When prices fell from 1929 to 1932, prices of both meat animals and of wheat fell at about the same time and by about the same amount, 60 percent. The consumption of meat, which presumably should have declined, remained quite stable, whereas the consumption of wheat, which presumably should have increased, declined slightly. Either (1) there is no such thing as different schedules of national demand for different food products or (2) something other than demand was operating during this period. The latter seems more plausible and what probably happened was that the length of our measuring rod changed. From 1929 to 1932 the value of our dollar changed violently as world prices changed. The different farm products retained roughly the same value relationships to one another as formerly. The major change was a decline in the price level which was the result of world, not national, forces. If this premise is sound, there is little left to be explained by changes in the relative demands for meat and wheat.

During these four disastrous years, 1929-1932, the index of per capita consumption of ten livestock products was stable. The index for each of the four years was 98. The amount of highly prized food consumed depended not on income but on the amount produced. The price depended primarily on the world price level. During the Great Depression the average person ate as much highly prized food as was produced and then filled his stomach with cheap food. Whatever cheap food was left, farmers fed to livestock. This principle holds true regardless of whether city wages are high or low. During the seven years of urban prosperity, full employment and high wages of the nineteen-twenties, consumption of the highly prized foods was also relatively stable.

A comparison of food consumption in China and the United States indicates that in terms of pounds of dry matter or calories there is little difference except in periods of famine. This is true despite the fact that wages of labor and incomes of consumers are probably not more than one-tenth those of the United States.

Exponents of the demand theory have the burden of showing how the many nations which have like patterns of food prices have acquired this similarity despite varying degrees of industrialization and therefore different proportions of urban wage earners to register their changing demands for food when economic conditions changed. Demand is a by-word with almost everyone including economists. The economist is expected to have the answer to all economic questions and, if he cannot find one, he falls back on the profound six-letter word "demand" which always pulls him out of a tight spot and adds to the prestige of the economist and frequently to the confusion of the public. Economics has long abounded with abstract theoretical discussions of demand. Most agricultural economists heaved a sigh of relief and agreed that with the adding up of wages, demand had been brought into measurable reality. These sighs of relief may turn into sighs of perplexity before the question of demand for food is finally settled.

Explaining Prices in One Country by One Factor

The explanation of prices is highly complex because of the difficulty of measuring the factors that make prices, particularly when they can occur in innumerable combinations. It is human nature to attempt simple explanations for complex problems. If four variables affect a fifth, it is always justifiable to attempt to explain the fifth variable in terms of one of the others if it can be shown that the other three did not vary. It is rarely if ever justifiable to attempt to explain one variable in terms of another if the effects of the others are ignored.

The current philosophy that prices of food products in the United States are dependent upon a high demand for food as measured by full employment and high wages will prove to have been in error because it attempts to explain prices in terms of one factor—domestic demand.⁶ World demand is a factor affecting prices and

⁶ Though it is a digression, it may be helpful to the reader if the authors present briefly their interpretation of the forces that make world prices:

this world demand includes not only the demands of United States laborers, but of world laborers, world farmers, doctors, lawyers, housewives and children—more than two billion people. Those who would solve the farmer's economic problems with 60 million jobs concern themselves with demand as measured by wages and payrolls for only one group of commodities on the part of one group of consumers. The 60 million workers in the United States constitute only about six per cent⁷ of the world's laborers. Can the demands of such a small proportion of the world's laborers raise the price of food in the United States? Since prices of basic commodities throughout the world are interrelated, to raise our food prices the demands of our laborers would have to raise not only the level of food prices in the United States, but the level of all prices in the United States and the level of food and all prices in the world. The thesis that farm prices in the United States are dependent upon the wages of labor fails because it takes into consideration only a part of the demand and because it ignores other factors that affect prices—the supply of commodities and the supply of and demand for money.

The monetary enthusiasts who explained prices in the United States by Federal Reserve discount rates or the volume of credit were in effect unknowingly assuming credit for explaining changes in the world price level. World prices and United States prices followed a common pattern. If our credit explained our prices, as maintained by the disciples of finance, either the United States financial policy dominated the rest of the world or else the rest of the world acted in unison with the United States.

This theory says, in effect, that commodity prices in the world equal the supply of money in the United States. It ignores the effect of changing supplies of and demands for commodities and the

$$\text{World price level} = \frac{\text{World supply money}}{\text{World supply commodities}} \times \frac{\text{World demand commodities}}{\text{World demand money}}$$

Those who would explain prices in terms of full employment and high wages in the United States say in effect that:

$$\left. \begin{array}{l} \text{U. S. food prices} \\ \text{U. S. price level} \end{array} \right\} = \frac{\text{Constant}}{\text{Constant}} \times \frac{\text{U. S. laborers' demands commodities}}{\text{Constant}} \\ = \text{U. S. laborers' demands} \times \text{constant.}$$

⁷ Some contend that American laborers with a high standard of living have greater demands for food than laborers of other countries. Even if their demands were two or three times as large, the illustration would still be valid.

demand for money in this and other countries. Any explanation of commodity prices in terms of the one factor, the supply of money in one country, must fail.

The production-control group attempted to raise farm prices and farm incomes by reducing production. They, too, probably did not know that United States farm prices followed the world price level, or if they knew it, they ignored the implications. The supply of commodities is an important factor affecting prices, but it is the world supply and not the local supply that affects world prices. Changes in local supplies can temporarily affect local prices, but these local prices cannot long depart from the world price level. Attempts to raise local prices by reducing local supplies are doomed to fail because they consider only a part of the supply and ignore all of the other factors that affect prices.

Our thesis is that the prices of farm products in the United States are determined by world forces—the supply of and demand for commodities and the supply of and demand for money.⁸ We, therefore, believe that those who would predict the future course of prices on the strength of changes in one factor in one country are doomed sooner or later to be erroneous forecasters.

Some Observations

Discussion of these theories of prices is an interesting intellectual exercise. If kept in academic halls, the cost would be small. But these ideas have had great popular appeal and their social costs have been large. The idea of increasing farm prices and farm income by reducing production was widely accepted by the classes and the masses. Students now generally accept the idea that reducing production did not accomplish its objective. The idea prevailed for about a decade and the process of educating the classes cost billions. Still more billions will have to be spent before the masses accept the verdict.

The intellectuals who abandoned the economics of production controls have accepted the economics of full employment and high wages. This idea also has a great appeal to the masses. What politician who wishes to survive will oppose it? It will take time and money to teach the intellectual classes that the welfare of the farmer is not dependent upon the laborer's pay envelope. There is

⁸ Only rarely do three of these factors remain conveniently stable so that the effects of changes in the fourth may be measured accurately.

no way of telling how long it will take to wrest from labor this powerful and seemingly altruistic argument for political solicitude in their behalf.⁹ Although the idea is currently popular with farmers, it will not take them long to educate themselves. They will soon learn that wages which are an income to a laborer are a cost to farmers and businessmen and that costs have an important effect on profit. Under the much-lauded free-enterprise system, profits determine employment and production.

There has been a long series of explanations of the forces that make prices. Most of them, like the kerosene lamp, are more noteworthy for their heat than for their light. The mind of man is a marvelous enigma. It does not hesitate to pay tribute to the virtues of free prices and then to develop arguments for government control. It has no qualms about explaining prices in one country by supply and then shifting to demand. It can recall affairs that occurred decades ago and fail to recognize the importance of recent events. It can develop intricate explanations for simple forces or simple explanations for complicated forces. Such is the mind of man and that of the agricultural economist is no exception.

Two thousand years ago the Greeks had many local and national Gods but felt the presence of some great though vague power and erected a temple "To the Unknown God." This unknown God, whom they worshipped in ignorance, was proclaimed to them by the Apostle Paul as the one God in truth. In our attempt to understand prices we have studied many local and national factors, but have felt the presence of some great but unknown force. This force is the powerful effect of the worldwide factors that cause the level of prices to change.

⁹ Walter P. Reuther of the U.A.W. branch of C.I.O. stated "we have been fighting to hold prices and increase purchasing power." William Green of the A.F.L. wants "immediate approval of an upward revision of wage rates to prevent postwar collapse of the nation's purchasing power."

Time, December 3, 1945, page 21, and *American Federationist*, page 5, February 1945.

THE PROSPECT FOR POSTWAR AGRICULTURAL EXPORTS FROM THE UNITED STATES*

R. B. SCHWENGER

Office of Foreign Agricultural Relations

IT OUGHT perhaps to be made clear from the start that the prospect for farm exports referred to in this paper is not the abnormal short-term prospect of the next few years of transition. Neither is it the theoretical long-run prospect. It is the prospect some 5 or 10 years hence, with no arbitrary assumptions other than that there will be no major war in the interval.

In the preparation of this paper, I have had the cooperation of a number of my fellow members of the staff of the Office of Foreign Agricultural Relations. We have tried in the past few years, to the extent that war and relief activities have permitted, to keep up with the facts relevant to the postwar outlook for farm exports. But no amount of reviewing of facts can make the judgment of that prospect entirely clear at this uncertain time in world affairs.

On the one hand, our farm exports will face great difficulties. According to present indications, they will enter a smaller foreign market in which they will meet greater and more vigorous competition. Most of them will be involved in world surplus situations.

On the other hand, governments are actively seeking methods of fostering economic expansion and increasing the volume of international trade. Moreover, they are not conducting this search unilaterally—as was largely the case before the war. They are doing it on a multilateral—i.e., an international—basis.

These collaborative efforts of governments, to be fully effective, will have to face squarely not only the general economic problems of maintaining activity and removing trade restrictions but also the specific agricultural problem of treating surplus situations on a commodity basis. Cotton is an outstanding example. The proposals for an International Trade Organization, released this past month, recognize the necessity for facing such problems squarely if international collaboration is to lead to economic peace.

I

Although the situation varies from commodity to commodity,

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there is a surprising similarity of pattern among our major export products. The pattern is that of world surplus and potential economic conflict. It may be sketched out in the following five comparisons with the prewar situation:

1. The foreign market for our farm products will probably be smaller. Even before the war, many of the importing countries had greatly expanded high-cost production at home. During the war, practically all of the importing countries were forced to increase their reliance on their domestic producers, particularly for such basic foods as cereals and fats. They now wish to retain much of the increase in their agricultural capacity, partly because of wartime guarantees to their producers and partly because of the very real fear that they may again be cut off from foreign supplies. Indeed, most importing countries, both large and small, with the exception of former enemy countries, now appear committed to the maintenance of a high level of domestic agricultural production. Hence, unless there is a very substantial increase in their level of consumption, they will provide only a curtailed market for the agricultural products of the exporting countries.

Even in the case of cotton, which is not produced in most of the large importing countries, there is a tendency for the mills in those countries to consume an increasing proportion of synthetic fibers, the cost of which is continuously being reduced and the quality improved. Moreover, there is a tendency for *textile*-importing countries to manufacture their own textiles from home-grown cotton rather than buy them from the industrial countries that import United States cotton. Wartime developments have given an impetus to both of these tendencies.

As regards agricultural production in the three industrial countries that were our former enemies, it is not yet clear whether these countries will be free to maintain their agricultural capacity as high as they might like. In the case of Germany, import requirements will be increased by virtue of the loss of Eastern agricultural areas and the migration of German nationals into what remains of the country. Nevertheless, neither Germany, Italy, nor Japan seems likely to be able for some considerable time to come, to resume its former large imports of agricultural products except for such time as foreign countries finance them in the form of relief gifts or loans.

2. Production of the great staples of international trade, com-

peting for this reduced foreign market, will tend to be higher than in the prewar period. There will probably be increased exportable supplies of cotton, wheat, rice, fats and oils, tobacco, and some of the fruits, a list of commodities which made up from two-thirds to three-fourths of our total farm-product exports before the war. The tendency toward increased production for export was noticeable before the war. In many important producing areas it was accelerated by wartime developments; in others, it was reversed. Most of the areas that increased output now appear determined to retain higher production levels, while the areas that decreased output seem equally determined to restore production and resume their upward tendency.

3. With import demand reduced and exportable supplies increased, there will be heavy pressure on world market prices. There is little reason to believe that such pressure will of itself be highly effective in reducing production in the exporting countries, both because of the policies of governments and because of the well-known inadequacy of the producer response to falling agricultural prices. The effect of price pressure in increasing imports will also be limited by governments as well as by the relatively inelastic demand for most staples.

4. In the competition for the reduced world market, foreign exporting countries may for a number of reasons find themselves in an improved position relative to the United States.

In the first place, our great industrial expansion in the United States relative to the rest of the world has, for at least fifty years, been attracting our farm products away from foreign markets to the domestic market; and we have been gradually yielding our place as an exporter to producers in such less-industrialized countries as Canada, Argentina, and Australia. The trend appears to have continued during the war.¹ This development is not incon-

¹ In 1870, less than one-fourth of the world's manufacturing production was turned out in the United States, according to an unpublished statement of the League of Nations on "Industrialization and Trade." By the turn of the century, the figure had risen to one-third. In the late twenties, it was over 40 percent. There is every indication that it rose to an even higher level in the war period. Meanwhile, the share of agricultural products in our exports fell from over 75 percent in the 1870's to less than 40 percent in the late twenties. It is significant that during the war, in spite of our large lend-lease shipments of food, the figure never exceeded 17 percent. Thus, other products may go the way of our one-time large exports of cattle, beef, and cheese. For example, with domestic prosperity, we may come to have no important exportable surplus of some of the fancy fruits that once moved abroad in rather large quantities.

sistent, of course, with an increase in our agricultural efficiency. It would not even be inconsistent with cases of increased efficiency compared with competing foreign producers. It means that our *industrial* efficiency has advanced even more rapidly by comparison with that of foreign countries. This will probably be an important factor limiting our farm exports in periods of reasonably high economic activity.

In certain important instances, our agricultural policy may have accentuated this withdrawal from the foreign market by preventing increases in efficiency from being reflected in lower farm prices; and the nature of that policy in the future is a second consideration that will affect our competitive position. Thus, Congress may decide to continue price supports and take only such part of the foreign market as will pay our prices, or the decision may be to offset the effect of our price supports in that market (as at present for cotton and wheat flour) by paying export subsidies, or we may let prices seek their own level and pay farmers an income supplement of some sort or other, or we may do some other combination of things. Under any policy, however, the maintenance of our competitive position in the face of world surpluses and depressed world prices will be costly. This, as well as adverse foreign reaction, will doubtless be an important factor limiting our agricultural exports, especially during periods of general depression.

Another factor that may put our agricultural exporters at a disadvantage in relation to foreign competitors is the supply of U. S. dollars, particularly in the hands of the large industrial countries that take the bulk of world agricultural imports. This factor is, in reality, not one factor but the net result of the operations of a variety of factors, including, in particular, the extent to which we are going to pay dollars to foreigners for our imports of their products and the extent to which we are going to make loans abroad. Other elements are tourist expenditures, payments for services, and the like. One important determinant of these things will be the level of economic activity in the United States, since we will import more goods, and may even lend more readily, if our economic activity is at a high level. Another will be the general conditions of international trading and lending; dollars are apt to be more readily available if both loans and trade are made freely and without discrimination than if loans are tied to particular transactions and trade is regional or bilateral. On the other hand, should there

be insufficient confidence in foreign monetary systems, foreign owners of dollar funds may make every effort to invest them in the United States rather than permit them to be used to purchase American exports. Because of the multiplicity of elements, the exchange prospect in 5 to 10 years is particularly difficult to assess, but it now seems probable that dollar exchange will at times be less readily available to the importers of agricultural products than will Brazilian cruzeiros, Argentine pesos, Australian pounds, or the currencies of most other competing agricultural exporters.

5. Finally, there will be a tendency for importing countries, in determining the source of their foreign purchases, to take into consideration factors not associated with the price or quality of the commodity in question. Bilateralism, regionalism, and "economic bloc-ism" can be implemented by directed agricultural purchases. There is already some of this developing. The members of the Sterling Bloc have not in general been permitting the use of dollars for the purchase of commodities obtainable within the Bloc. The U.S.S.R. and some eastern European countries have concluded special trade deals. I do not mean to say that these practices will necessarily continue. I merely remark the tendency. Like the other four factors I have mentioned, it is a difficulty to be overcome in looking to our postwar farm exports.

II

It will be noted that each of these five factors pointing to difficulty for our farm exports gathers increased significance from the fact that governments everywhere are, and apparently will remain, in substantial control of their agricultural situations—at least to the extent necessary to determine, on the one hand, the quantity of imports of most agricultural products and (in many cases) the sources from which those products are purchased, and, on the other hand, the price and conditions of export of their agricultural surpluses and (in most cases) the levels of domestic production.

Some observers have looked upon the trend toward government control of farm production and foreign trade as a temporary thing that would be reversed at the end of this war. When true political and economic peace has been firmly established, that reversal might come. At present, however, among both the important importers of our farm products and our important competitors, the

outlook is for substantial government control for an indefinite period. The United Kingdom, the world's largest importer of farm products, has announced a policy of maintaining government control of imports of cotton, of establishing the Ministry of Food as a permanent government department, and of employing such controls as may be necessary to provide a system of assured markets and guaranteed prices for the principal British agricultural products. Canada has general authority to support farm prices and controls wheat exports closely; Brazil supports cotton export prices through a loan; the examples can be multiplied all down the line.²

But governments may be able to use their control of farm production and trade to effectuate policies we approve as well as those we deplore. The same monopoly that promotes high-cost domestic wheat production under one set of circumstances might turn to low-cost imports under another. The same government bank that makes loans on cotton exports at one time might finance a measure of diversification at another. Government controls of agriculture can be an instrument of policies consistent with general economic expansion as well as of those that accompany restriction.

The events of the thirties indicate, however, that they are not apt to be employed for expansion if each government acts on its own. The market for agricultural products is a world market. No government controls enough of it to be able, unilaterally, to carry out its program for the whole market—even for just one important commodity. Acting alone, the United States could not rationalize the world production-distribution program for cotton, or for wheat, even if our program were far-sighted and consistent with the maximizing of consumption. Such a program must be carried out by coordinating our acts with those of other governments controlling their portions of the supply and of the market.³

Ten years after the last war, agricultural protectionism was cutting the market, export supplies were increasing, and prices were in jeopardy. Each country met the situation in its own way, and surplus problems grew and affected the whole world economy.

² For a summary of the status of government intervention in agriculture, see L. A. Wheeler, "Trend in Foreign Agricultural Policies," *Foreign Agriculture*, September 1944. Later developments are analyzed currently in *Foreign Agriculture*.

³ For a comparison of the arguments for and against agricultural controls as instruments of economic expansion, see R. B. Schwenger, "World Agricultural Policies and the Expansion of Trade," this JOURNAL, February 1945, p. 67.

We must ask ourselves whether the prospect 10 years hence is for more coordination of national efforts.

III

It is of great significance to our farm-exports, therefore, that the governments of the world are determined to "win the peace," and are putting their best efforts into the creation of an international organization for that purpose. Every part of that organization will, *to the extent it is successful*, make our farm-export prospect better.

In particular, the Security Council of the United Nations Organization will tend to reduce the importing-country fear of being cut off from foreign agricultural supplies and will thus permit those countries to reduce high-cost domestic production. The International Monetary Fund will tend to produce orderly exchanges and instill confidence, and thus help to reduce the possibility of a continued dollar shortage. Loans by the International Bank may help exporting countries shift out of surplus farm production into other lines of activity. The Food and Agriculture Organization has been set up to stimulate the achievement of adequate food standards and to advise governments and other international organizations as to the action necessary to prevent underconsumption of food in the midst of abundant production.

There remain at least three fields of international cooperation and program coordination, of great importance if the difficulties confronting our farm exports are to be overcome, that have not yet been confided to a general international organization. I refer to the prevention of depression and unemployment, the reduction of barriers to international trade, and, perhaps most important of all for the farm-export prospect 5 or 10 years from now, the management of world commodity surplus situations without resort to economic warfare. Under the guidance of the State Department, a staff of government technicians has developed proposals to deal with these areas of cooperation through international action under an International Trade Organization.

The importance of effective action to prevent depression and unemployment I need hardly discuss, in view of the frequency and thoroughness with which the subject has been dealt in practically all recent economic discussions and in view of the general unanimity on the matter. I might point out, however, that, unless

there is a reasonable measure of success in efforts in this direction, our export markets will be in a situation analogous to our domestic markets. That is, both will tend to expand in a boom and shrink in a depression. It is fatuous to let oneself even subconsciously think of the export market primarily as a safety valve to take care of what we cannot use at home only when our domestic situation has gotten out of hand and we do not use our normal requirements. This sort of thing occasionally will happen when crops are good here and bad abroad, but it will rarely happen during a domestic depression. The export market we must plan for and the only kind of export market we can count on is a continuing market year in, year out; and it can be satisfactory only if foreign countries are relatively prosperous.

The reduction of barriers to international trade is a necessary concomitant to the maintenance of economic activity. The reduction should affect not only tariff barriers but also quantitative restrictions; not only measures checking trade but also those, such as preferential arrangements and many export subsidies, that divert trade into uneconomic channels; not only government controls but also those imposed by private business combinations and cartels. Our agricultural exports have suffered greatly from trade barriers in the past and those now in force can limit them greatly in the future.

But the portion of the proposals of most particular and immediate significance for our agricultural export prospect seems to me to be the proposal that governments undertake, in addition to the responsibility for maintaining full employment and for dealing with barriers to international trade, the specific obligation to join in a procedure for dealing with international commodity problems. There is a separate chapter on intergovernmental commodity arrangements. It suggests special commodity studies and intergovernmental commodity conferences looking to commodity agreements. These would apply to commodity situations where burdensome surpluses had developed (or were developing). They would deal specifically with cases where the commodity exhibited an inadequate reaction of quantities produced and marketed to a decline in price and where this inadequate response was due in part to the predominance of small producers. In other words, the commodity approach would be employed to deal with such products as wheat and cotton and others whose demand and supply

characteristics have made them world problems in the past and presumably will make them so again in the future.

A commodity commission would be set up to keep international commodity problems under continuing review and actively to promote their solution.

IV

Since the outlook for reducing the difficulties facing our farm exports depends to so considerable an extent on the success of the combination of international organizations being set up by the United Nations, we are forced to ask what may be the prospect for the success of that international effort.

It would, of course, be premature to judge an organization the very form of which was not yet fully determined. Moreover, the judgment of so comprehensive an effort as the present one toward world organization calls for the examination of questions far beyond the scope of this paper—not to say beyond my competence. Yet perhaps I may put forward my personal view that, in the difficulties of our export trade there are to be found certain problems that can thwart that effort—and that these problems, as they develop, can serve, in a sense, as touchstones by which to judge whether the international organization is doing what it must do in order to succeed.

In this connection, may I remind you of a famous session of the Council of the League of Nations which I happened to witness. It was in the winter of 1932. A special meeting of the Council had been called, at the request of China, to consider what action might be taken on a Japanese ultimatum threatening bombardment of a crowded district in the Chinese-administered portion of Shanghai.

Five months before, Japan had begun military action in Manchuria. Since then the Council had held some thirty meetings to deal with the conflict involved. There had been a great coming and going of foreign ministers and prime ministers, attended by publicity that we thought must surely make the Japanese quake in their battle wagons. The Council had passed two resolutions calling for investigation of the situation while the opposing armies withdrew, but the Japanese army, far from withdrawing, had conquered a block of Chinese territory comparable in size and population to the four states; Illinois, Indiana, Wisconsin, and Michigan.

And now the Council was again meeting, about 6 hours before the Japanese ultimatum was to expire. A United States observer had been invited to the Council table. A Chinese spokesman pleaded eloquently for action of some sort before the naval guns spoke. Paul Boncour of France, presiding, made an eloquent appeal to Japan to put off the ultimatum until the powers found a peaceful solution to the conflict. Around the table, not prime ministers (who sometimes came), not foreign secretaries (who were officially members), but their substitutes associated themselves with this appeal. They had no other instructions.

The next morning much of Shanghai was leveled in a most horrifying manner. And almost 10 years later, what might be called an extension of that same bombardment was delivered, without the courtesy of another ultimatum, some 4,000 miles eastward at Pearl Harbor.

I mention this case because of the dramatic juxtaposition of apparently peaceful procedure with actual war. The Council had never officially recognized what was happening. It had balked at joining our Secretary of State, then that far-seeing statesman, Henry L. Stimson, in declaring merely that changes in China forced by Japan would not be recognized. It had not addressed Japan in different terms than China. The members of the Council had not permitted it, because they were not willing to pay the cost of resolving the conflict while it was still relatively small. Of all the failures to face and resolve conflicts of interest that I saw among the hierarchy of councils and committees and commissions sitting at Geneva during my student years there, this one stands out most strikingly in my memory. It seemed the culmination of a development that ought to be avoided this time.

After almost every war, there is wide-spread enthusiasm for solving problems through an international concord of one sort or another. The meetings looking toward such a concord are marked by international friendship, mutual personal respect, and sincere idealism. Much is made of the areas of agreement between the different sovereign powers represented. The areas of conflict are approached with great delicacy. Unpleasant decisions tend to be deferred. But sooner or later, areas of conflict arise which cannot be deferred if the international concord is to endure. Unless they are faced squarely before they get out of hand, the concord is doomed. This is true of the conflicts of peace—such as our economic

conflicts—as well as of the dramatic conflicts of prestige and security that often lead so directly to war.

Thus far there appears to be a general intention to back the international organization in facing problems. Among officials associated with the new organizations, one encounters sober awareness of difficulty more often than optimistic expectation of great achievement. At San Francisco not only was the security problem scheduled to be faced positively, but there seemed to me to be a sincere intention to have the Economic and Social Council go as far as necessary into every urgent economic problem—including specifically the questions of full employment and commodity surpluses. I am told that a similar attitude prevailed at Hot Springs and Bretton Woods. Sir John Orr is reported to be determined that the FAO shall face its essential problems unflinchingly and at once. In the lengthy discussions leading to the proposals for an International Trade Organization, the facing of conflicts was sometimes almost brutal.

But almost all of the important specific decisions remain to be taken. Although the procedures being worked out seem adequate, the representatives of the powers have not yet had to decide whether and how to act when faced with a conflict of economic interest. In the fields having a more or less direct effect on our farm-export prospect some conflicts are already appearing. Thus, the world cotton market is glutted. A bitter trade conflict threatens. There is no prospect for any automatic solution for a considerable number of years. The interested countries have agreed that multi-lateral action is called for, and an International Cotton Study Group is seeking a plan for such collaborative action. Will it succeed? There are conflicts over existing trade controls, many of which are not consistent with world prosperity and trade expansion. Will the coming international discussions lead to their modification? The international community will be faced, sooner or later, with the conflicts that arise when some important country's imports fall off because of an internal depression. Will the nations then manage to maintain trade and economic activity at a satisfactory level?

Questions of this sort are the touchstones I have in mind. It was from 10 to 15 years after the last war before the accumulation of unfaced, unresolved conflicts led to serious impairment of the international collaborative machinery of that period. We may now

have a similar period in which to develop and prove the new machinery.

If in that time the practice of resolving conflicts is not developed, if our representatives and those of other countries in international discussions are unduly limited by their instructions, if they talk of freeing trade from old barriers but wink at new forms of trade obstruction, if they boggle at the very mention of the word "surplus," if they rely too heavily on a world prosperity thought always to be just around the corner, then our brave new structure of international collaboration will have little chance for success and our agricultural export prospect, and for that matter most other economic prospects, on any continuing basis at least, will be poor indeed.

If, however, the representatives of sovereign nations can come to face conflicts squarely, if they can deal with them on the basis not only of informed representation of present interest but also of willingness to make smaller concessions for the larger good, there will be a chance for world peace and prosperity, and our farm exports may come, in spite of the difficulties in the offing, to fit satisfactorily into a rational world pattern of trade and production at relatively high levels of consumption.

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS*

P. LAMARTINE YATES

ON THE 16th of October, 1945, just two months after the end of the war, United Nations representatives assembled in Quebec and in solemn ceremony signed the Constitution which brings into existence the Food and Agriculture Organization.

At long last we have an international body charged with examining the problem which, next to peace and war, is the most important of our age—the problem of food in all its aspects—production, distribution, consumption. Thus comes to fruition the activity of a devoted group of workers who for ten years have urged with a persuasiveness that rivalled their persistence the need for action at the international level.

The Quebec Conference owed its origin to Hot Springs, and Hot Springs partly to the late President Roosevelt and partly to the work of the League of Nations Mixed Committee on Nutrition.¹ And prior to the Mixed Committee came the efforts of individuals in America and elsewhere, who were advocating better nutrition and wider markets for agricultural products. The Mixed Committee had been established because an Australian Delegate at the 1935 League Assembly had voiced the general public's disgust at the spectacle of food surpluses accumulating while farmers went bankrupt and millions of consumers went hungry. Here were reversed the gloomy predictions of Malthus, with practical consequences as gloomy as ever he predicted. A century of agricultural progress had foundered in its own success.

It is important to recall these events which started a chain of ideas that led ultimately to an FAO. The events we hope will not occur again, but the forces behind them will almost certainly reassert themselves after the brief interlude of war. It is worth reviewing these forces briefly, though the outline is familiar to econo-

* A paper presented at the annual meeting of the American Farm Economics Association, Chicago, Dec. 27, 1945.

¹ This Committee published its interim report in four volumes entitled (1) *Interim Report of the Mixed Committee on the Problem of Nutrition*, (2) *Report on the Physiological Bases of Nutrition*, (3) *Nutrition in Various Countries*, (4) *Statistics of Food Production, Consumption and Prices*, and one final report entitled *The Relation of Nutrition to Health, Agriculture and Economic Policy*. These volumes still constitute the most complete single collection of statistical and other data on food consumption and on the relationship of health to diets.

mists, in order to discover what things FAO might do to help governments to control them.

The Agricultural Crisis

Between 1830 and 1930, as agricultural economists well know, the production of food in the "Western World"² expanded prodigiously. First came the agricultural revolution in Europe: the application of science to farming and the accompanying social changes (enclosures, revised concepts of property, etc.). The cultivated area was extended, per acre yields augmented, more live-stock were kept. Food production increased 50%, then 100%, then increased still more.³

Meanwhile, by the opening of the New World, Europe's food "catchment area" was enlarged from 5,000,000 to 50,000,000 square kilometers. She relieved her own congestion by exporting people and eased her food supply problem by developing food imports (and there were some too from "Eastern World" countries). Although during the century the population of the "Western World" trebled, perhaps quadrupled, yet agricultural production increased even faster, so that per caput consumption was better in quantity and quality at the end of the period than at the beginning. The multiplication of human beings had made all-time records but agricultural production more than kept pace.

In the 20th century a new trend set in; the rate of population growth slowed down first in one country, then in another, and then throughout the Western World. Whether or not the rate of agricultural progress also slowed down is hard to say. There is evidence of a quickening of transfer of manpower out of agriculture into industry⁴ and of a slackening impetus to take new land into cultivation which suggest that productive capacity in farming was becoming more than adequate to take care of requirements. The whole question deserves serious investigation, for its right elucidation

² For the purposes of this article the Western World includes most of Europe, North America, parts of Central and South America, Australia, New Zealand and South Africa. The rest may be conveniently, if erroneously, called the "Eastern World."

³ It is time some economic historian assembled the evidence to compute the quantum of agricultural output in Britain and Europe decade by decade since, say, 1800. He could find a quantity of miscellaneous data on production. He could cross-check roughly by what is known of the population and typical diets at different dates.

⁴ In several countries the occupational tables of population censuses are fairly comparable from decade to decade after about 1880.

tion would throw much light on the prospect before us. Will the gap in the Western World between the population curve and the curve of food production capacity continue to widen and progressively exacerbate the problem of reallocating resources?

Whatever the secular trend, there was certainly a particular boost to agricultural capacity in the Americas and Oceania provided by the war of 1914-18. As everyone knows, it was the attempt of this new production to maintain itself in the face of (protected) European farm recovery that was the immediate cause of the agricultural crisis.⁵ To the extent that recovery may be better organized this time it will merely bring forward somewhat the relevant crisis dates.

An aggravating factor in the late 1920's was the phenomenon of trade barriers. When an enterprising delegate displayed in the League Assembly a scale model of tariff walls, all it did was to stimulate a new frenzy of tariff bricklaying. But the tariffs were themselves derivatives; they were a product of economic maladjustments resulting from the war and too deep to be rectified by traditional economic arrangements.

Finally, when the slump once began, new factors emerged to intensify it. Unemployment and smaller pay packets meant a serious cutback in the masses' purchasing power. Industry, being itself depressed, ceased to attract men and resources out of agriculture just at a moment when such a shift was most urgently required.

As farm economists will know, the "Western World" of 1930 was finding it comparatively easy to produce a lot of food, was embarrassed by a step-up of production capacity, newly emerged but dating back to 1914-18, was encountering thickening difficulties in the international exchange of goods and then had to face an unprecedented slump in consumption. This was the predicament of one-third of the world's two billion inhabitants.

The other two-thirds live in the "Eastern World" which, aside from its export crops, experienced no crisis and indeed had experienced no agricultural revolution. Its farming practices remained those of the Middle Ages. Its food consumers were its food producers. It had no complex market mechanism to get out of order. Though population had increased but slowly, food output

⁵ It was 1925 before Europe's crop output returned to normal, while livestock did not come right back until 1928.

had barely kept pace; in fact in some areas food imports from "the West" were on the increase.

Knowledge of Nutrition

It was not only upon the agricultural crisis that the Geneva Reformers of 1935 turned their attention. They were also impressed by the evidence which the new science of nutrition was accumulating in regard to the relation between nutrition and health.

The ill effects of not eating enough of the right kind of food are manifold. In the first place, malnutrition leads to impaired vigor and lowered vitality, so that its victims cannot fully play their part as active and useful citizens. Secondly, the incidence of disease in general and the mortality rate among infants, young children, women in the child-bearing period, and indeed among all age groups, are invariably higher in ill-fed than in well-fed populations. Recovery from disease is more prolonged when the diet is defective. Countries which consume the best diets have the lowest rates of mortality and the highest expectation of life. Thirdly, there are various common diseases, such as tuberculosis, which are directly associated with lowered resistance caused by malnutrition. Finally, there are a number of food deficiency diseases, i.e. diseases directly due to lack of specific nutrients in the diet, which are prevalent in various parts of the world and lead to much unnecessary suffering since they are preventable but not prevented

On the positive side, there is much evidence of the general improvement of health and physique which can be produced by the improvement of diets and there are also striking examples of the successful prevention of deficiency diseases by appropriate measures. Maternal and infant mortality can, and has been, reduced by dietary means.⁶

The statistics reveal impressive improvements in health. For example, during the past sixty years infant mortality has declined in the Netherlands from 181 (per 1,000 live births) to 37, and in Australia from 125 to 39. The statistics also record startling present-day contrasts. Whereas infant mortality is 32 in New Zealand it is still 169 in British India. Deaths from pulmonary tuberculosis (per 100,000 of population) in 1936 were 36 in the Netherlands but 253 in Puerto Rico and 233 in Chile. Although it is not suggested that the incidence of infant mortality or tuberculosis is solely a function of diets—clearly sanitation, health service, housing, etc. are significant—nevertheless, diet plays an important part. Thus, as between cities in Britain which all have virtually the same stand-

⁶ From United Nations Conference on Food and Agriculture *Final Act and Section Reports*, Washington, 1943, pp. 35, 36.

ard of health and sanitation services, both the general death rate and the death rate from tuberculosis are twice as high in poor cities as in prosperous ones.⁷

The Geneva Reformers, and the same was true of others in other countries, perceived here a great opportunity. If governments could be persuaded to adopt nutrition policies there might be an advancement in health comparable to that which occurred when in the 19th century governments adopted sanitation and health programs. This proposition commended itself strongly enough on its own merits. It became doubly compelling when it offered at the same time a solution for many of the difficulties of the Western World's agriculture.

A number of governments developed experimental programs: school milk, school lunches, food stamp plans, special distributions to the unemployed, nutritional propaganda and consumer education. War came while these were still being regarded as emergency anti-depression measures rather than permanent programs for health.

War Experiences

The war has taught us many things that would not have been learned in twice as many years of peace. First, the importance and efficacy of nutritional policies. In several countries where food supplies had fallen to a level which in the absence of intervention would have caused serious deterioration in health, governments took action to improve the nutritional quality of foodstuffs and to distribute them to various classes of the population in accordance with physiological needs, and thereby actually secured a state of national health as good as, or better than in peacetime. In Britain, for instance, although consumption of meats fell 20% and of fruits and tomatoes nearly 50%, the general state of health improved and infant mortality fell to the lowest level ever recorded.

Secondly, we have learned how much scope remains, even in the advanced countries, for expanding agricultural production. Output went up 25% (measured in money at constant prices) in the United States of America, or so I believe, and 20% in many Latin American countries. It increased 70% (measured in calories⁸) in

⁷ For fuller discussion of the significance of these and similar statistics see *Food and Health* by F. L. McDougall, a memorandum presented to the Quebec Conference on Food and Agriculture, 1945.

⁸ This is the only appropriate measure since a switch from high-priced to high-calorie foods was the essence of the agricultural production campaign.

the United Kingdom. One responsible factor was the deliberate and vigorous upgrading of farm practice by application of scientific methods. Another was the incentive of good and guaranteed prices which allowed the farmer to make necessary improvements and to concentrate on his production job without bothering about marketing.

Thirdly, we have learned how difficult it is to expand production in the "Eastern World." For instance, the Government of India introduced a nationwide "Grow More Food Campaign" put over with all the skill and resources at the disposal of the central government and stimulated by the awful experience of the Bengal famine; but the results were disappointingly modest, and had it not been for the opportunity provided by reduction in the cotton and jute acreage the campaign might have failed altogether.

During the war many other things have been learned which also will have relevance to future policies: improvements in food processing techniques, methods of enriching the nutritional value of foods, economies in distribution services, to mention but a few. It would be useful if FAO could make surveys of wartime experiences in some of these matters before the records are scattered or lost.

Hot Springs to Quebec

War does not only teach techniques. It rearranges values and gives society a new sense of direction. The late President Roosevelt was peculiarly apt at expressing the reorientation of men's ideas and setting up new goals. His third freedom, freedom from want, epitomizes the goal of all economic effort. He then pointed out that having a sufficiency of food lies at the center of freedom from want and proceeded, albeit in the midst of the war, to call the United Nations to Hot Springs to discuss food and agriculture as a basic issue in postwar economic policy.

The Conference decided that freedom from want of food can be achieved, that the responsibility lies with governments, but that they need an international organization to help them.⁹ It proceeded to set up an Interim Commission to prepare plans for the new world agency. This Commission, working in Washington, D. C., drafted

⁹ See *United Nations Conference on Food and Agriculture Final Act and Section Reports*. For further discussion of the Conference see *Redirecting World Agriculture and Trend Towards Better Nutrition*, by F. F. Elliott, this JOURNAL February, 1944.

a Constitution¹⁰ and produced a number of reports describing the field of work of the proposed Food and Agriculture Organization and the procedures it might develop.¹¹ After acceptance of the Constitution had been signified by at least twenty governments the Interim Commission was able to call the first conference of the permanent organization.

At Quebec the United Nations representatives, after signing FAO's Constitution, went on to give form and substance to the new agency. They elected as first Director-General, Sir John Boyd Orr, an eminent Scotsman, known the world over for his research work in animal and human nutrition, and in recent years for his vigorous advocacy of this marriage between health and agriculture. They appointed an Executive Committee of fifteen which chose Professor Andre Mayer (France) as Chairman, and Howard R. Tolley (U. S. A.) as Vice-Chairman. They endowed the Organization with those very necessary possessions: rules of procedure, financial regulations, and a budget. The budget provides a sum of \$5,000,000 for the first full financial year.¹² This is no large sum for an organization which has to cover agriculture, forestry, fisheries, marketing, food consumption and nutrition for all the countries of the world. It is less than the budget of one of the smaller bureaus in the U. S. Department of Agriculture. FAO will have its temporary seat in Washington, D. C., and its permanent home at the headquarters of the United Nations.

What will FAO do? It had already been explained in the Interim Commission Reports "that FAO should collect and disseminate information, should give advice and organize missions of technical experts, should make studies and recommend action to other international agencies and to governments. This time (at Quebec) the questions answered were, what information, what advice, what studies, what recommendations."¹³ It is impossible to summarize

¹⁰ See *First Report to the Governments of the United Nations by the Interim Commission on Food and Agriculture*, August 1, 1944.

¹¹ See *The Work of FAO*, and *Five Technical Reports on Food and Agriculture* submitted to the United Nations Interim Commission on Food and Agriculture by its Technical Committees on Nutrition and Food Management, Agricultural Production, Fisheries, Forestry and Primary Forest Products, Statistics—August, 1945.

¹² For the part-year from November, 1945, to June, 1946, the budget is \$2,500,000, of which nearly \$500,000 represents the expenses of the Interim Commission and the Quebec Conference, while another \$500,000 is expected to be transferred to a working capital fund.

¹³ From *Report of Commission "A" of the Quebec Conference*, shortly to be published as part of the Conference Proceedings.

briefly the numerous and various proposals put forward by the six committees of Commission "A" at Quebec. Their reports merit careful study. A few items are singled out for comment in the following section of this paper.

But before FAO's services can begin to operate, the Director-General must undertake considerable preparatory work. He has to assemble staff. He has to establish working relations with governments and in consultation with them devise techniques for the periodic reports which, under the FAO Constitution, they are pledged to make to FAO and to each other regarding progress made towards the goals of the Organization. He has to make apportionments of work with other United Nations agencies.

Above all, to equip FAO for its many tasks he will have to develop a substantial service of statistics. Here FAO will naturally build on the foundations laid by the International Institute of Agriculture at Rome, benefiting from its accumulated experience in this work,¹⁴ but FAO will want to go further and develop international statistics in new fields, for instance, in fisheries, food consumption, and nutrition. It will want to use statistical material not merely for history writing but for outlook studies. It will want to interpret the data and upon them frame recommendations to governments. Facts and figures must not become ends in themselves, but they are basic and essential to any worthwhile services that FAO can perform.

FAO's Fields of Service

(1) Rehabilitation

The war-damaged countries need food quickly to avert famine; they need materials—fertilizers, feedingstuffs, seeds, pesticides, machinery—to restore their agriculture. While relief and rehabilitation are the concern of UNRRA rather than of FAO, there are several ways in which FAO can help. It might, for instance, arrange for assistance in the re-equipment of scientific libraries and laboratories damaged or destroyed during the war. It might convene one or more technical conferences at which scientific workers cut off for so long by enemy occupation might learn of progress made in other countries during the war years. It might obtain, on request from these countries, the services of experts to advise

¹⁴ At Quebec a Resolution was passed recommending the winding-up of the affairs of the Institute and the transfer of its library and archives to FAO.

on certain urgent agricultural production problems. It might organize for these countries an exchange of information regarding local surpluses and world supplies. It might prepare itself to advise them on aspects of their present agricultural policies that have long-term significance. It might develop a relationship with UNRRA whereby FAO ultimately takes over when UNRRA comes to an end such functions in the field of agricultural rehabilitation as are appropriate to FAO's terms of reference. This last, indeed, leads naturally on into the field of long-term agricultural development to which both for the war-torn and for other countries FAO ought to be able to contribute a great deal.

(2) Agricultural Development

In the "Eastern World" where agriculture remains so backward and so many mouths have to be fed, the tasks are to raise output per acre and output per man by every possible means. Much can be done, though the physical and social environments are not helpful. The call is for technical development in many directions in water supply, seeds, fertilizers, pesticides, livestock improvement, and so on—to increase output per acre; more implements and small machines, better roads and marketing facilities, alternative employment (in new industries) for surplus population—to increase output per man.

Compared with Western countries the Eastern World has to catch up 200 years of agricultural progress. There is no time to lose, for in most regions population continues to increase. The family that today has 10 acres will have only 9 acres in ten years' time, and only 8 twenty years hence. If the farmer's living standard is to rise he must produce more per acre (by technical aids) and he must have more acres (by absorbing part of the population into industry). The faster the progress in doing this and in raising living standards, the sooner the point will be reached when population growth slows down and perhaps ceases.

It is beyond the scope of this paper, which (in a later section) deliberately emphasizes matters of interest to Western World farmers, to list all the ways in which FAO can aid technical development. The approaches must be many, partly because the problem is so vast and partly because it cannot be dealt with exclusively on the agricultural plane. All aspects of economic development are involved simultaneously. FAO's work in agriculture

must be fitted in with the plans of other international agencies: with the International Bank in plans to finance the development of industries and mineral resources; with the International Trade Organization in promoting a larger volume of exchange of goods; with the World Health Organization in improving health services; with the Educational Organization in eliminating illiteracy. Progress in food production and consumption is bound up with progress in all these other spheres.

At the same time FAO can render specific services in its own field. It can circulate information about research work completed or in progress: for example, FAO might call attention to new varieties of seed of important crops, and where varieties appeared promising under the conditions of any particular under-developed country, it might aid in the production of commercial quantities.

Many countries also need expert advice on technical problems. FAO might arrange to send on a government's request a mission of experts chosen from several countries to study and report on a particular problem. FAO can also advise the proposed International Bank for Reconstruction and Development on the desirability of loans for specific agricultural development projects: for example, it might advise on plans for the establishment of a fertilizer manufacturing industry in a country where the need for fertilizers is great. It is by means of a multiplicity of practical projects, such as getting better quality seed into the hands of farmers and making fertilizers available to them at prices they can afford to pay, that agricultural development in the Eastern World is going to be hastened. Through FAO all countries should have access to the best available expert opinion and should be able to obtain important information not elsewhere available.

(3) Distribution and Consumption Programs

FAO is based on the view that, in the last analysis, the interests of producers and consumers are identical, that policies have no value which rob either to pay the other. Therefore programs which secure fair and stable prices to producers need to be implemented by programs which ensure that consumers can afford to buy the foods they need for health.

In the first place, this means marketing programs. Governments through FAO can seek advice on building up marketing and processing facilities—roads, storage space, packing stations, refrigera-

tion plants—in the many territories where these are lacking. Likewise in advanced countries, where the chief need is for economies in distribution, governments can learn from FAO what experiments have been made in simplifying services and cutting out redundancies. Much material could be brought together and published which might provide the basis for substantial reforms.

Secondly, it means consumption programs. FAO should collate and analyze the nutrition programs which several governments developed successfully during the war, in forms useful for governments wishing to initiate such programs now. In less developed countries where nutritional needs are so great and public resources so slender, FAO might collaborate with governments in arranging pilot experiments in a selected community or with a particular foodstuff to determine the most effective measures for raising nutritional levels. Further, FAO should collaborate with international agencies responsible for full employment, international trade and foreign lending, in order to harmonize programs for speedily expanding the level of consumer purchasing power.

(4) *International Marketing*

So far we have said little about the farmer of the Western World and things that FAO might do to help him. He, it is true, will benefit substantially if indirectly from the services already mentioned, but he is anxious about the future. He or his fellows have an interest in export markets whose future outlook, after the dislocation of the war years, is obscure. He knows the large expansion of output in the Americas; he knows that this was needed while millions of men stood under arms and while European farming was disorganized. The fighting men are being demobilized now and soon European farming will begin to recover. What happens then? He knows what happened last time.

I, as an outsider, lack the knowledge which the many experts in this room possess, and I cannot prophesy what will happen to agriculture in the Americas, but suppose it remains at or near its wartime high output level while European output creeps gradually back to its level of prewar. In a few years Europe will be not merely up to the prewar level but well beyond it, for she too is in a phase of rapid technological farming progress. Considering the Western World as a single whole and plotting on a chart the course of agricultural output, the prewar gradual upward trend, broken by the

war, will be resumed in a few years' time at a substantially higher level than the extrapolation of the prewar trend, and will then proceed gradually upward again (perhaps indeed rather more steeply upward if FAO successfully furthers the application of agricultural science to farm practice). The Western World might have adjusted itself to the slow and steady increase in agricultural output resulting from technological progress. To have added on top of this a sudden and permanent stepping-up of production capacity, as a result of exceptional wartime stimuli, may well bring about a new agricultural crisis.

What would that mean? Last time prices fell and fell, causing widespread misery until, after indomitable resistance by farmers, the level of output was eventually forced down. In many instances governments finally stepped in with artificial restrictions which curtailed production but put some bottom into farmers' income.

Now that the nations have an FAO there is no need for this melancholy history to repeat itself. Much experience has been accumulated during the war years about nutritional programs, experience which FAO can put at the disposal of governments. If governments can see their way to develop such programs as a permanent and integral part of their health services there can be large increases in consumption of all the protective foods. This would be true even in the most wealthy of the western countries and much more so in the less wealthy. It is strange how many farmers still entertain suspicions of nutritionists, for really those who successfully advocate these consumption programs are the finest sales managers that farmers could possibly employ.

FAO cannot, of course, guarantee, even with these various efforts, that the Western World's consumption will be sufficiently raised to match the augmented production. Much would depend on the vigor of response to the proposals. For one thing, agriculture might not be successful in reorientating its production quickly enough toward the nutritionally desired foods; there might be too much wheat and cotton and insufficient fruit and vegetables—and meanwhile governments might resort to export subsidies, new tariffs and other devices which do not sweeten trade relationships. Secondly, governments might not see their way to develop nutritional programs as extensively as circumstances require. Thirdly, the Western World might not succeed in effecting sufficient reductions in trade barriers to secure a reasonably unimpeded flow of

food supplies between one Western country and another; on the contrary, difficulties experienced in reorientation of production might easily, as suggested above, stimulate the erection of new barriers. If, in any of these three directions, practice fell short of precept, consumers' effective demand would probably fall far short of productive capacity.

Let us suppose, however, that all these policies were effectively pursued, that all Western nations framed their agricultural production programs on exactly the right lines, that all of them developed far-reaching nutritional programs and that each and all substantially reduced trade barriers; it still remains doubtful, having regard to the special upward jerk given by this war to the Western World's agriculture, whether effective demand could catch up with productive capacity. Admittedly we do not yet know the magnitude of the quantities that will be involved. Much more statistical analysis and forecasting is required. However, there are good reasons for supposing that even in the most favorable circumstances there may be too much agricultural production.

In that event, the most obvious solution, arguing from history, would be to curtail agricultural output and to direct men and resources into industry rather than into farming. That is easy to propose, less easy to effect. It is comparatively easy as long as the transfer can be gradual; indeed, throughout the last 150 years there has been a continuous transfer of this kind. When, however, a large maladjustment appears suddenly, as it did in the mid-1920's and may do again, then the required redirection of resources may be too large to be taken care of by the normal pull which industry exerts. In that case, the more drastic sanctions come into force against agriculture: large-scale price reductions and/or subsidized restriction programs. A sudden curtailment of agricultural output by either of these means would probably create depressive influences over the entire economy and destroy that buoyancy which industry needs if it is successfully to absorb the resources no longer needed in agriculture. Should the Western World encounter within a few years an agricultural crisis of this kind, probably the whole economy would be involved and readjustment would be extremely painful and protracted.

Is this diagnosis unnecessarily gloomy? One cannot be sure. It is difficult to peer into the future and risky to argue "from what happened last time" because history never quite repeats itself.

Nevertheless it would be difficult to refute the evidence that an agricultural crisis is approaching. Such a crisis could certainly be mitigated to the extent that bold nutritional programs were adopted; it could not be avoided altogether. Indeed, a crisis seems inescapable so long as we seek solutions solely within the confines of the Western World and of commercial markets. We cannot blink the fact that production capacity is centered in the West and consumption capacity in the East.

There was one occasion in history when a sudden addition to production capacity did *not* bring calamity—in Britain in the 19th century. She could produce; the rest of the world could consume, but could not pay until later (and not always then). Apart from food which she lacked, she exported almost every type of manufacture; she invested right and left; she did not count the cost; she did not investigate too closely the credit worthiness of the borrowers; from her island of luxury (for those days) she cast her bread upon the waters. In the second half of the 20th century ought, perhaps, the advantaged countries, acting collectively, to assume a similar role for the benefit of the disadvantaged countries?

This raises questions concerning foreign investment and its modern blood-brother "lease-lend." The economics of lease-lend in this broad use of the term deserve thorough investigation in their historical manifestation. The investigator would show how economic theory would wish to redistribute world population in relation to world resources and so equalize marginal net output per man, and how politically impossible this is. Since it is more feasible to move goods than men, he would discuss the export of goods to raise economic productivity in the less advantaged countries. He would consider the pros and the cons of all types of such "investment": of machinery to establish new industries, of irrigation and flood control equipment to aid agriculture, and of food to raise the stamina of workers in these various industries. He would finally estimate the advantages to be derived by the investor when the developing countries reached the stage of being able to conduct a substantial foreign trade.

The conclusion might emerge that this investment proposition—the large-scale transfer of goods from one group of countries to another group—has a special relevance to the period upon which we are entering. It might indeed have something to contribute to a solution of the anticipated agricultural crisis. The evidence might

suggest that the best chance for the West to achieve prosperity during the next few decades would be not solely in expanding the producing power of its own consumers, a procedure which beyond a certain point may create economic difficulties and political dangers, but rather in supplementing this activity by programs which link the productive capacity of the West to the consumption capacity of the East.

FAO will in any case be working on proposals to help the less developed countries to help themselves: increase their own food output and establish new industries. Most of FAO's work in the scientific and technological fields will be directed to this end. But however vigorously these proposals are pressed the results will emerge slowly. Immense resistances have to be worn down and replaced by newer, more positive ways of living. Inevitably the modernization of Eastern agriculture must take decades to accomplish. Meanwhile many hundreds of millions of people will continue to lack enough to eat. In that situation it would be tragic if the West, having exhausted its own markets, had to close down on part of its productive capacity and then had to suffer all the unpleasant consequences of economic depression.

Already the reader will be murmuring "finance." Who would pay for such transfers of goods which the East cannot afford to purchase on ordinary commercial terms? Oddly enough, it is comparatively easy to collect a million dollars to found a hospital in Chungking or to send relief to the victims of a Yellow River flood, though the hospital is curative rather than preventive, and relief parcels do not prevent the recurrence of floods. It would be politically much more difficult to raise an equal sum to finance the transfer of goods which would bring far more benefit in the long period. Finance, however, is not an insuperable obstacle, for as soon as nations become persuaded that this type of investment is profitable they will devise ways of financing it. Not that the details of financing are contemptible. They raise a number of important problems calling for serious economic analysis and it is hoped that someone will soon venture to discuss them.

At the Quebec Conference there was considerable discussion of how to deal with temporary or chronic agricultural surpluses. FAO was given a clear mandate; for the report of the Marketing Committee states:

As part of such (commodity) agreements, it (FAO) should advocate meas-

ures for mitigating an international surplus of one commodity by increasing its consumption or diverting production towards commodities in shorter supply or more elastic demand. Such measures could include special arrangements by which surplus commodities could be supplied on especially advantageous terms to countries of low purchasing power and great nutritional need for special distribution among their low income and disadvantaged groups.

It was envisaged that FAO's duties fall into two parts. First, it should provide a world picture—a moving picture of statistics of production, trade, utilization, and consumption of all major commodities in all countries. Beginnings have been made by the Combined Food Board and many other wartime agencies, but FAO will paint a much wider canvas. The picture must enable statesmen and legislators to think in terms of quantities, and at all times to have some idea of what is going to happen in regard to food supplies during, say, the next twelve months.

Secondly, on the basis of this picture FAO should prepare recommendations to governments regarding action programs for certain commodities or certain regions. There may not be much time to lose. The shortages of today become the surpluses of tomorrow. Situations may develop fraught with economic difficulties and political tensions. FAO has the task of seeking out constructive solutions where none seem in sight. It has to persuade governments and the general public that the proposals it makes are in the ultimate best interest of all concerned. The Western World will be prone to judge FAO by the way it handles this provocative problem which threatens to cast its shadow across the world of food and agriculture in the not distant future.

Conclusion

It will be seen that there are many ways in which FAO can be of service to the world. It can do much to procure more speedy application of the findings of science to agriculture, forestry, fisheries, marketing and food consumption. It can encourage and facilitate new surveys and new development projects. It can work resolutely for new programs for the rural populations which everywhere, in the advanced as well as in the backward countries, stand at a disadvantage in regard to all types of services—health, education and the rest.

By assembling and interpreting information on all the scientific, economic and social aspects of its field, FAO can become the chief

focus of knowledge regarding the condition of food and agriculture throughout the world and the character of the important trends. Using the statistical material which it will gather, FAO can draw attention to coming events and to such readjustments as may be necessary. FAO will want to sit down with representatives of farmers and consumers and not least with representatives of governments to work out solutions to a wide variety of problems. Indeed, if the number of recommendations put forward by the various committees at Quebec is any guide then FAO will be in constant demand and very heavily occupied. There can be no doubt that the nations need FAO.

If progress is to be made in improving agricultural production and the nutritional levels of peoples it is clear that the attack must be on many fronts. Although this article has laid special emphasis on the probability of an agricultural crisis and on ways of dealing with it, because that is a topic which much preoccupies the minds of farmers and farm economists in this Western World of ours, yet that is only one part of the general world food problem, and it cannot be solved by itself in isolation. All these problems need to be dealt with simultaneously: progress in regard to one aids progress in regard to others. FAO has been given the task of conducting a long-sustained combined operation for the benefit of all peoples.

EDUCATIONAL OPPORTUNITIES AND RESPONSIBILITIES IN FOREIGN AGRICULTURE*

CHARLES L. STEWART
University of Illinois

THE agriculture, home economy and rural life of mainland United States has long been of interest to persons from other parts of the world. In like manner, people of mainland United States have been learning about these matters in other countries and in the various parts of our own country, including outlying possessions. The extent to which methods and conditions may seem strange does not always rest upon distance across seas.

Principles involved in agriculture, home economy and rural life are worth studying anywhere in order to understand their aspects everywhere. In Western Europe, for example, it does not make much difference whether one's schooling in advanced agriculture has been gained in any one of a dozen countries; the student can apply his knowledge in his own locality. Within broad areas of the New World the same holds true. It appears that more and more people are finding knowledge of conditions in another major area an aid to better understanding of problems within their own area. In intercontinental movements of students, professors, press representatives and others interested in gaining a more universal basis for agricultural insight and usefulness, the United States probably will continue to play a part.

A world exchange of experiences and ideas concerned with agriculture, home economy and rural living is important, as is world trade in products and the services connected with products. Persons in each country should look upon the exchange of ideas from standpoints of import as well as export. There is a possibility that in a single country there may be a desire to have those who visit it take back knowledge out of all proportion to the desire of its own citizens to learn from other countries. It is easy to assume that students at the undergraduate level coming from adjoining countries or from overseas should move into colleges of mainland United States in numbers far surpassing the number of students from the United States seeking training in foreign countries. However if there is an underbalance in our export of students at

* A paper presented at the annual meeting of the American Farm Economic Association, Chicago, December 27, 1945.

the undergraduate and graduate levels, it may be offset by an exporting of personnel of mature experience. Our emissaries might well include many exchange professors, fulltime workers from the Office of Foreign Agricultural Relations of our Department of Agriculture and staff members in international organizations for research in tropical agriculture and for that and other types of activity under the United Nations Food and Agriculture Organization.

Experience in the United States is recommended to persons who may come as students or visitors. Some of the grounds on which we think that those who come will gain from a study of our agriculture, home economy and rural processes follow:

1. There is wide range in climatic and other environmental conditions in the United States, quite apart from outlying possessions.

2. Despite the shifting sands of colloquial language and in spite of some regional accents, the United States is a country in any part of which a foreigner who has some training in English can make himself understood.

3. There has been both intensive and extensive application of labor and capital to the land resources in various parts of the country.

4. Numerous experiment stations and colleges have organized much information and thrown light on many principles.

5. There is such a high tempo of progress in science and technology in the United States and such an easy access to a wide diversity of cultural institutions that students from other countries may feel assured that a period spent here will require no extended additional period spent in the home environment to bring them down-to-date on developments.

During World War II the relatively unimpaired facilities for research and advanced training in this country were not overlooked by persons from other countries.¹ Nearly all of those who came for

¹ Aliens admitted under Section 4e of the Immigration Act of 1924 exceeded two thousand a year in four of the years, 1938-1945. The numbers for 1943-1945 were 1,021, 1,643, and 2,866, respectively. The number admitted in 1945 was 17 percent higher than in 1938. There were 2,010 admitted from the Americas in 1945. Compared with 1940 this was more than double. While the number from Canada and Newfoundland shrank from 617 to 377, the number from other parts of the Americas increased from 334 to 1,633. The number from Europe dropped from 610 to 244 in the same five years. Instead of 34 from Africa—there were 57 from Africa in 1926 and again in 1938—the number was 24 in 1945. From Australia, New Zealand, and other Pacific areas, the number shrank from 76 in 1940 to 29 in 1945. The number from China doubled, and from all Asia increased about 60 percent. See *Monthly Review*, Immigration and Naturalization Service, Department of Justice, November, 1945.

schooling were at the graduate level. A request for information sent to 100 colleges and universities this fall brought some interesting results.

Sixteen Eastern institutions reported 1,129 foreign students, including 200 in agriculture.

Eleven Southern institutions reported 450 foreign students, of whom 81 were in agriculture.

Thirteen north central and western institutions reported 773 foreign students of whom about 185 were in agriculture.

Forty institutions in all reported 2,350 foreign students, slightly 460 in agriculture. A few institutions from which reports came late or not at all are known to have numerous foreign students but probably not many in agriculture. It may thus be an exaggeration to infer that a sixth of the foreign students were emphasizing course work and thesis work in agriculture.

China, India and Norway are among nations reported recently to have transmitted official requests to send persons to the United States for graduate or other special studies. This suggests that the 1940's may see increases in the number of students in colleges and universities of the United States from across the Atlantic and Pacific. The coming north of Latin-American students bids fair to increase also.

Some members of our armed forces, some others sent abroad to teach armed service personnel, and a few in UNRRA had previous connection with experiment stations and schools devoted to agriculture, home economics and rural social life. These constitute more than a sprinkling of Americans who have gotten into touch recently with science and technology applied to foreign agriculture. In general the extent of this acquaintance is not comparable to that usually obtained by spending entire semesters or a series of years in scholarly agricultural work in a first-rate foreign research center. Sabbatical leaves spent in foreign countries were eliminated by the war in a third or more of the land-grant colleges and universities, and were greatly reduced elsewhere.

Furthermore personnel of the Office of Foreign Agricultural Relations was not maintained in many of the areas where first established. The redeployment will bring several additional countries into the orbit of studies of that office.

The early 1940's could have been expected to be a period in which many Americans in experiment stations and in resident and extension teaching would have gone abroad. But arrearage is upon us.

The desire for foreign observation and study experience has been whetted by the events of the war period.

Some questions should be faced:

Should leaves for foreign observation and study by our faculty members be given special stimulus?

It may be suggested that we do not have to spend much time abroad in order to get knowledge of foreign agriculture, home economy and rural living. Many persons in administrative posts in our experiment stations and colleges might well be encouraged to take the lead in a foreign experience. This might be one of the best ways to assure that a considerable number of such leaves be granted. Some of our executives, having kept close to duty since the World War began, should get away from it all for some salt-water travel and some closely-knit study abroad. Numerous professors and specialists in foreign universities would welcome opportunities to come here as special consultants or in other capacities. Not all of them would have to come on an exchange basis.

Reasons for foreign observation and study now include these:

1. As English has become the second language of a large proportion of persons in educational and administrative leadership around the world, our staff members meeting these people in their native haunts and seeking information can be understood. Knowledge of French, German, Spanish, Portuguese, and Russian while useful in dealing with documents, need not be great for one to get help on problems abroad. Moreover foreigners, as the tide of familiarity with English has risen, can more easily think of themselves and their graduate students coming more quickly and more often to this country.

2. Although college announcement booklets are read in English by many in foreign countries, professors or deans from American universities in such countries can arouse interest in home universities far beyond that aroused by cold printed matter.

3. Even a distinguished professor from abroad can seldom be expected to select material for American listeners that may be desired, although what he says may be on a high level. An American staff member can usually report better on what he saw or heard than can a visitor from that country. The foreigner's premises and modes of presentation are bound to be somewhat alien.

4. The experience of being in foreign experiment stations, of studying in foreign libraries, both public and private, of talking

with students and faculty and especially of carrying through a research project abroad does something worth while to Americans. Methods of attacking problems in institutions of advanced learning abroad are not far behind those used in this country, and in any case an American at work in another country is not detached from available sources of information about American techniques.

5. Although some members of an American staff need seldom to go abroad, some others should go several times. The granting of sabbatical leaves as ordinarily practiced fails in getting younger faculty members away to foreign study early enough. Many no sooner attain the minimum rank than they are confronted with family liabilities too great to permit either maintaining the family in two units or taking it all abroad. When children begin bringing grandchildren home it is rather late for faculty members to start taking their foreign sabbatical trips. Events connected with the war have brought to younger faculty people more interest in agriculture abroad. They may do well in consolidating scholarly gains from an adequate exposure to foreign experiences.

6. The United Nations Food and Agriculture Organization, a vital part of the total United Nations Organization, will make the United States the mecca and workshop for persons from many countries. Foreign specialists will thus come into contact with specialists trained in this country and with others on this continent. They will often be in meetings in which there will be a preponderance of people from our part of the New World. They will reinforce their knowledge of foreign agriculture by direct contact with New World conditions. Provincialism on the part of our staff will be uncomfortably obvious. By gaining experience abroad and a full-ordered knowledge of agricultural and related data of the globe early in professional life, they will be far more useful and influential.

In the light of such analysis, a recommendation is offered:

Where sabbatical leaves are too difficult for legislators to support consistently or are otherwise unavailable to able young members of a station or college staff, a new category of foreign observation and study leaves or missions should be set up to supplement the sabbatical leaves or to stand alone where the former are not functioning liberally. Foreign agricultural observation and study leaves should be scheduled ahead over a series of years in any institution so that some minimum number, possibly as few as two, members of the staff would be making such trips each year from now to 1950

into various foreign countries. The foreign leave period should be for six months (seven when counting annual leave as consecutive with it) and for twelve months by special arrangement. In addition to full pay, special allowances should be granted for these foreign leaves. These allowances should be for extra insurance premiums on an owned or rented passenger automobile used abroad and for premiums on special health and other personal insurance taken out for the term of absence from the United States. Also there should be established a basis of a fare and a half in second class to reimburse the appointee for the expenses of his travel route out and back. The fare and a half would assist a married couple in keeping the family together during the leave period by travelling together in less expensive accommodations.

This recommendation presupposes that land-grant and other institutions make clear to the public that substantial advantages can be gained from sending faculty members abroad under a systematic plan for world coverage. A few of these institutions can undertake to make the coverage rather complete. Some other institutions, however, might find it more practicable to be less ambitious. At the latter institutions if courses are planned which require lectures on agriculture in some foreign cultural region for which no member of the staff is equipped, a supply of the help needed should be provided. Someone from another institution, or from the Federal government, who has prepared himself by recent foreign contact should be made available. The Office of Foreign Agricultural Relations recently caused liaison personnel to be named in many of the land-grant institutions. The object is to facilitate contacts with foreign agricultural visitors coming to this country. Some of these visitors can be asked to come prepared to show visual material and to lecture for the benefit of the local staff. By cooperation between the Office of Foreign Agricultural Relations and the Association of Land-Grant Colleges and Universities lists including facts about our agricultural scientists who may have had unusual contacts with agricultural conditions and problems in various world regions can be made available to various universities.

Where the foreign-area studies are inspired and led by persons outside the agricultural division of the university, the leaders usually recognize that the agricultural aspects must have an ample place in the teaching and investigational work involved. Where courses in international comparative agriculture and related subjects are

conceived as primarily for agricultural faculty members to give, an interest in finding staff members in other divisions of the university is equally natural. Some of these can add much flavor with their knowledge of the history, the music, the literature and the geography of the foreign area studied.

But granting that local cooperation between faculties is of the best and that interinstitutional cooperation is developed, they are still not sound substitutes for direct and ample contact with foreign agriculture on the part of agricultural faculties state by state. The need is for quick intensification of efforts to this end. For every faculty member who had a foreign agricultural experience on sabbatical in the 1920's or 1930's there should be two or three times as many preparing to go in the next half-decade.

In an analysis of our educational opportunities and responsibilities in connection with foreign agriculture, place should be given to another question: To what extent should we wisely plan for a larger role for the United States in research and teaching to foster agricultural and home economic improvement around the world?

Among considerations which support the probability that there will be need for expanded facilities for training in foreign agriculture and related subjects in the United States are the following:

1. The United Nations Food and Agriculture Organization is being placed within our borders. An early objective of many foreign students of agriculture in this country will be to get adequate pre-service training for UNFAO positions. For those who come early into that work, in-service training will also be in order.

2. The agricultural and homemaker population in the United States will be interested in learning about foreign agriculture and in having the youth learn it also both while in resident school work and while in touch with extension activity. The newer knowledge of nutrition connects so clearly with newer concepts of production for home consumption and export that a recognition of foreign competition and demand cannot be denied a major place in planning both individual farms and family consumption budgets. Through schools at the secondary and even primary level, through more adequate undergraduate and graduate coverage and especially through extension activity somewhat more broadly planned we may have a public much more sharply informed about the total world agricultural situation in its commodity and policy aspects. Our leaders in these fields of education will be studied under and studied about

by progressive people in other countries. Our persistent efforts to inform not only the agricultural intelligentsia but also—with all-too-slow permeation—the agricultural diligentsia (if the tillers of the soil may be called that, down to the last hired man) has attracted attention abroad. Persons familiar with our methods will be at a premium. They will be invited abroad for such campaigns as enabled the 4-H club movement to get started in Denmark and other Finno-Scandinavian countries before the war. This may be a phase of reciprocity, for certain phases of extension, like numerous other phases of agricultural education, have a long tradition in some parts of the world. In the exchange, particularly as it affects extension methods, we may anticipate a wider invitation of American talent abroad than of foreign talent here.

Our experiment stations and our faculties of resident teaching and extension are likely soon to be at a point in personnel and public support without previous parallel. Our ability to spare some specialists not only for brief leaves for observation and study but for more extended periods of special service on direct invitation from agencies in individual foreign countries will probably not be equalled by any other country. Citizens of the United States may find foreign service attractive as never before. Americans have a liking for people of other countries and generally deplore the conditions under which the latter have to live. Americans look now with confidence upon their ability to learn foreign languages. They expect that their return trips to the homeland will be speedy and frequent. They know that information by radio and other quick services can reach them even in traditionally inaccessible places. Now after a really global war they feel that the world itself can be encompassed with no more difficulty than a New World river valley was two centuries ago.

However when personnel for UNFAO and other international civil service positions is sought on the basis of tests, the requirements of language, of specific geographic information, and of practical know-how may not find Americans coming off with flying colors at the beginning. The hurdles to be surmounted may be a challenge.

One of our principal responsibilities is toward our own public. Among essentials for sound teaching and extension activity so far as emphasizing agriculture abroad for American consumption are these:

1. Intensified contact by our extension and resident teaching staff with agriculture, home economy, and rural life and the personalities active in these fields in the major foreign agricultural regions.

2. The use of an informed personnel to give the American public an adequate sound comprehension of the basic world agricultural needs and potentialities for better world living.

3. More vigorous and effective efforts to acquaint personnel in foreign universities and secondary schools and through that personnel and other channels to acquaint the youth of foreign countries with what the educational system of the United States has to offer them. This includes not only existing scholarships and fellowships made available by the institutions themselves, or by governments under treaty arrangements, but also a better picture of the human and social side of education in American schools.

4. In the near future there should be regional and national conferences of educators and farm organization leaders to give support to the best plans for making our courses of instruction at the appropriate levels more adequate on the side of international comparative agriculture, agricultural programs in their international aspects, home economy in major world culture regions, and even in specific fields such as tropical horticulture and the like.

5. There should be a prompt effort made to develop a circuit or several circuits of advanced-study institutions, representative of the major agricultural regions of North America for linkage with a Federal institution for training in foreign service located in or near Washington, D. C. Such a system could be developed so as to provide both unity and diversity in bringing before foreigners studying agriculture in North America a comprehensive and coordinated knowledge of our agriculture, home economy, and rural life. The major agricultural regions and the main farming type areas within each should be visited and studied. Special emphasis should be laid upon the economic factors underlying the differences. Production, marketing, credit, tenure, farm organizations, rural institutions, farm home life, all need to be analyzed and evaluated at first hand. The central government should not only provide a matrix for the entire development, including a preliminary course and a final binding course, each of a few weeks, in or near Washington, but should work out with the Association of Land-Grant Colleges and Universities and other comprehensive college groups a plan for getting the bulk of the foreign service training in agricul-

ture away from Washington and out into the proper regional setting.

Now that the world economy is hospitalized, and wounds, physical and spiritual, from recent violence and international surgery, are deep and sore, the prescriptions set up in this paper may seem almost frivolous. No guilt of frivolity will attach, however, if we can achieve an intellectual and spiritual interlacing of peoples by utmost exertion of science-minded workers in agriculture, home economics and rural sociology. Even great exertion in this direction will not take the place of basic political arrangements which must be far-reaching indeed, now that those in fission research have brought atomic energy problems knocking at the door. The attitudes, policies and goals of science-minded workers can be helpful, however, in putting the flesh and blood of reality and sincerity into and around the muscles of a developing world political mechanism. This matter of educational opportunities and responsibilities may have importance, not only in its own sphere, but inasmuch as it parallels a movement along an extended line, it may have in it the surge of marching events.

DISCUSSION OF PAPERS ON FOREIGN AGRICULTURE AND TRADE PROBLEMS

ASHER HOBSON

University of Wisconsin

I assume that most farm economists take it for granted that a sizable volume of agricultural exports is a necessary prerequisite to a self-supporting agriculture in this country. Certainly that is my own view.

In agricultural policy circles, and there are many such circles, great stress is being placed upon a high level of urban employment as an essential in any program designed to promote a healthy agriculture. It goes without saying that farmers cannot sell at acceptable prices unless consumers have funds with which to buy. But a point which deserves equal emphasis, it seems to me, is that a high level of employment in business and industry, important as it is, cannot do the job alone. While it is doubtful if American agriculture can prosper without a high level of employment, such employment is not a guarantee for satisfactory prices for farm products.

For those farm staples which are produced in excess of domestic requirements, prices are likely to fall to low levels unless commercial outlets, other than the domestic market, are found for a portion of the supply. It seems likely that the production of certain farm products will greatly exceed domestic requirements in the "post Steagall" period. To the usual list of export agricultural commodities, it seems probable that some newcomers will appear.

If we continue to produce in excess of domestic requirements, the big question, is: "What to do with the excesses?" The logical expectations are foreign outlets.

Mr. Schwenger harbors considerable doubts regarding export prospects for farm products. To his list of doubts I wish to add another. I refer to a probable lack of stability in many governments during the next five to ten years. Governments, including our own, dominate international trade. They formulate the rules of the game. They will continue to do so. The rules are mighty important from the standpoint of promoting or hindering commerce among nations. But what may be equally as important as the rules themselves, is the frequency with which these rules are changed. This point is not so generally recognized. Commercial concerns hesitate to go to the trouble and expense of building foreign contacts in countries whose foreign trade policies are subject to frequent modifications. Changes in governmental administrations tend to intensify this difficulty. Germany, Italy, and Japan were among our best customers for farm products before the war. The prospects for stability in government in these three countries for some time to come are not bright. Without that stability, foreign trade with those countries is not likely to flourish—on a commercial basis.

On the plus side, the greatest hope it seems to me, is that governments may have become convinced by past experience that their old ways have not proved successful; that directed trade through systems of tariffs, barriers, and controls brought about a state of economic warfare with little or no long run benefits even to those dominating the controls.

The prime requisite to reduction of barriers to international trade is, of course, an assurance of international security. Without such assurance I see little hope for any marked improvements in foreign commercial relations among nations. Whether or not the new United Nation's Organization will be able to impart to nations a feeling of national security, one cannot say. Certain it is, however, that American agriculture has a vital stake in this effort. I might even go so far as to state my own belief that if such assurances fail to materialize, it probably makes little difference whether or not we have foreign trade on a commercial basis. We will be quite occupied with other problems. This is another way of emphasizing the important role played by international commercial cooperation in maintaining the peace of the world. We may have come to a point in our civilization where we must provide national security—or else.

I do not share Mr. Schwenger's enthusiasm for international commodity agreements. History does not furnish a record of high achievement in this field. But my objections are not based upon the difficulty of their operations. Certainly we must look forward to that unity among nations which will make such agreements operative if we choose to operate them. My objection is based largely upon the belief that most, if not all, the international commodity agreements in the past have tended to prevent expansion of production in low cost areas, and have tended to encourage expansion or at least maintain production in high cost areas. I have the apprehension also that these agreements when successful tend to restrict consumption of low income groups, and restrict especially consumption in

low income countries. To be sure these difficulties may be overcome. What I am saying is that, for the most part, they are yet to be overcome.

May I now turn to Dr. Yates' paper on the Food and Agricultural Organization of the United Nations. Few will quarrel with the high purposes of that organization. Few will fail to appreciate the difficulties of their accomplishments. These difficulties should not be minimized. The dramatic phrase "freedom from want" is a worthy ideal. But one may question its suitability as a basis for an effective working program. Increased consumption of a commodity or a group of commodities, in most cases, involves increases in the ability to produce on the part of those who would increase their consumption. Increasing the general productive capacity of large masses of food consumers is no light task. Economic progress does, however, depend, in considerable measure, upon making headway toward the accomplishment of that task. It will be slow work. It is doubtful if production can be increased to anything approaching necessary levels under a system designed to guarantee freedom from want. Something like two-fifths of the world's population live in China and in India. It is not at all clear as to how the productive capacity of the great bulk of the people in these two countries is to be increased in such a manner as to provide for even their minimum needs. I do not refer necessarily to the capacity to produce the things they consume, but the capacity to produce enough to exchange for enough to meet their consumption requirements.

Dr. Yates exhibits great faith in the powers of suggestion, persuasion and education. I subscribe to the ten commandments, yet I am forced to admit that after some thousands of years of rather intensive suggestion, persuasion, and education among considerable segments of the world's population, these commandments still fall far short of universal application. Dr. Yates would probably reply that the results justify the efforts. To this I would be inclined to agree. Our difference on this point is merely one of degree. There are times, however, that the author permits his faith to carry him beyond the realm of what seems to me, to be reasonable expectations. In speaking of a possible overproduction of farm commodities in the western world Dr. Yates states his faith in the FAO in these terms: (referring to over-production),

"What would that mean? Last time prices fell and fell, causing widespread misery until, after indomitable resistance by farmers, the level of output was eventually forced down. In many instances governments finally stepped in with artificial restrictions and curtailed production and put some bottom into farmers' income."

"Now that the nations have an FAO there is no need for this melancholy history to repeat itself." (Italics are those of the reviewer.)

To expect an international organization whose powers are largely advisory to prevent agricultural crisis of international dimensions, this, I submit, is expecting too much.

This sort of expectation heaps unjust burdens upon the FAO. FAO is deserving of a better fate.

With reference to Professor Stewart's paper on "Educational Opportun-

ities and Responsibilities in Connection with Agriculture," I should like to comment upon one phase only, not because it is the most important, but because of its timeliness. As Professor Stewart pointed out, the United States is likely to become to an increasing extent in the very near future, an educational center for foreign students. There are a number of developments which point in that direction. Not the least of these are the fact that the United Nations Organization and the Food and Agricultural Organization are to have their headquarters in this country. The activities of our government in facilitating study here on the part of foreign students is bound to have accumulative effects. At the present time the department with which I am associated has 27 foreign graduate majors, a majority of them are here as a result of arrangements made through our government.

If these students are to be served in a manner best suited to their needs, some modifications in course offerings and some modifications in degree requirements are in order. Many of these students come to this country on leave from University positions, or from positions with their governments. They often come for the purpose of securing specialized training to fit them better for a definite task upon their return home. One question which arises is whether or not they should attempt to qualify for a degree. I shall not attempt to answer that question except to say that the dropping out of degrees will not be a satisfactory answer to many, in fact to most foreign students. They come here for education to be sure, but they also come for degrees. I for one would not like to undertake the task of explaining to them that education and degrees may not be compatible. But the more important consideration is that of ways and means by which they can obtain under competent supervision in-service training which will give some first hand information on the practical application of their classroom knowledge.

I submit that these problems are worthy of serious consideration. Graduate schools cannot long delay the formulation of answers to such questions.

SOCIAL SECURITY FOR FARM PEOPLE*

I. S. FALK AND WILBUR J. COHEN

Social Security Board

OUR farm population is now striving to consolidate and extend economic gains made during the war. But if these gains are to be meaningful, they must include protection against the causes of individual insecurity. Farmers have turned to insurance and cooperative efforts for protection against the special hazards of agriculture, without sacrificing their traditions of independence and self-reliance. Similarly, protection against the hazards which affect social security can be achieved through methods which uphold and strengthen the freedom and self-respect of individuals and families.

Purposes and Principles of a Social Security Program

Everyone who works for his living, whether in agriculture or in manufacturing and whether as an employee or an independent operator, faces the risk that his earnings will be cut off at a time when there is still urgent need for them. Even in the most prosperous of economies, individuals become too old to work; they become unable to work because of injuries or sickness; they die without having been able to make adequate provisions for the support of their families. Those who work for wages and salaries are confronted by the additional risk of involuntary unemployment.

When earnings stop, some substitute is necessary. Individual savings represent too uncertain a method of providing this substitute. Relatively few persons earn enough during their entire working lifetime to permit the accumulation of savings adequate for the years which follow retirement. If earnings are cut off prematurely and unexpectedly, particularly during the period when family responsibilities are greatest, there may have been neither time nor opportunity to accumulate any savings. In the past, families faced with the necessity of finding income to substitute for the breadwinner's earnings have commonly turned to relatives, to friends, or to charitable organizations.

This country embarked upon its first large-scale program for a

* A paper presented at the annual meeting of the American Farm Economic Association, Chicago, December 27, 1945.

more orderly method of compensating for income loss in 1935, when a social insurance system for wage earners in industry and commerce was enacted. Because this system excludes large groups of the working population and fails to insure against all of the most common causes of income loss, it cannot be considered as more than a first step toward social security. But it has been a successful first step. Workers have become familiar with and have endorsed the social insurance principle of pooled risks to lessen individual hardship. They have found new self-respect in a system which collects premiums in the years when they have earnings and entitles them to benefits when earnings stop. Under a social insurance program, the worker's right to protection is clear and undeniable; benefits are paid without regard to other resources and without a "needs" test. Because benefits are related to past earnings, they help families to maintain a standard of living approaching to the standard of the years when they had current earnings.

The cost of social insurance protection is spread throughout the worker's lifetime and over the working population and is within the reach of all. The premiums which a worker pays give him a more direct and a stronger interest in the program than he would have if he were paying the same amount in the form of general taxes on his income, his property, or the goods and services he purchases. And a program in which workers have a direct interest or "stake" is less apt to be subjected to changes which will endanger their rights as future beneficiaries.

Widespread endorsement of the principle of social insurance to compensate for the wage loss which results from the unemployment, old age or death of the worker indicates that social insurance methods should be used in extending comparable protection to groups of workers not now covered and in broadening the programs to include protection against other insurable risks. When our insurance programs have more extensive coverage and have been in existence for many years, relatively few families will be without protection; nevertheless, there will probably always be some individuals not able to share in gainful work and social insurance protection. For those persons who do not become insured and for members of the insurance system who have special needs which require supplementation of their insurance benefits, a strong public assistance program is an essential part of our social security setup.

Rural Groups and Their Need for Social Security

Agricultural economists and sociologists need only the briefest review of the characteristics of farm groups as background for a discussion of social security needs of farm people.

Self-employed farm operators.—The self-employed farm operators enumerated in the 1940 Census of Agriculture included 1.3 million "subsistence" farmers under age 65 who worked less than 100 days off the farm and had products valued at \$250 to \$749; somewhat more than 2.4 million farmers with products valued between \$750 and \$10,000 (the family commercial group); and a small number—only 52,000—who operated large-scale industrialized farms with products valued at \$10,000 or more. It is obvious that these groups differ in their needs for social security protection. Moreover, in extending social insurance coverage to farm groups, other wide variations must be taken into consideration: available cash income out of which social security contributions would be paid; ability to keep even the minimum of records needed for reporting income and other information essential to the administration of the program; and the extent to which they employ farm workers who would also be covered by the program.

The group of "subsistence" farmers includes families which are most in need of protection and which would probably gain the greatest return from a social insurance program; their coverage has been hampered by the difficulty of providing protection at a cost compatible with their small cash incomes. Net income for the great majority of the operators of family commercial farms is sufficiently high to permit the payment of regular social insurance premiums but is seldom great enough to permit the operator to make adequate provisions for the security of himself and his family out of his own resources alone. About half of this group of farmers hired some labor in 1939 but their average expenditure for labor was small, and premiums which they might be required to pay on behalf of their hired workers would represent only a very small proportion of the value of their farm products. Operators of industrialized farms and ranches, although having less need for social security coverage than farmers in general, present relatively few administrative problems because they customarily maintain records and report their incomes to the government for income tax purposes. However, in achieving the extension of protection to agricultural employees,

this last group is important inasmuch as it accounted for almost a third of the cash farm wage bill in 1939.

The farm operator's need for social insurance protection is considerably greater than it was a decade or so ago. The degree of security provided by the smaller farms has diminished steadily as a result of increasing dependence on commercial production as well as of heightened competition from larger farms. Full ownership of an unmortgaged farm—once the farmer's dream of security—has become more and more difficult to achieve; witness increased rates of tenancy and an increase in debt burden in relation to farm values.

Self-employed farmers are, on the average, significantly older than urban wage earners and consequently have a more urgent need for old-age insurance. Farmers have more than average need for survivors' (i.e., widows' and orphans') protection because they have a higher ratio of dependent children than any other occupational group in the Nation.

Farm wage workers.—For most farm workers, employment is typically uncertain and broken. Wages are too low, even when allowance is made for the receipt of food and shelter, to permit agricultural workers to save adequately for emergencies or for old age. Workers whose relationships with their employers are brief and casual have taken the place of the permanent "hired hand" who, because he was considered a household member, could count on his employer's sense of responsibility to assist him through sickness and old age.

Local seasonal workers who enter the agricultural labor market during periods of high seasonal activity, and migratory workers may, in the aggregate, number at least 2 million and perhaps as many as 3 million, as compared with 1.2 to 1.5 million regularly "hired hands."

Agricultural wage workers include a higher proportion of persons aged 65 or over than does the group of industrial and commercial workers now covered by the social insurance program. Moreover, the family responsibilities of agricultural wage workers are apparently somewhat greater than those of urban people. The low wage rates and the irregularity of employment which characterize farm work make it utterly impossible for agricultural workers to obtain, on an individual basis, the protection which they and their families need.

*Present Social Security Measures and Their Failure to
Meet the Needs of Farm Groups*

Social insurance.—The Federal social insurance program now covers only industrial and commercial employees. The old-age and survivors insurance program provides protection against the loss of earnings which results from old age or from the premature death of the breadwinner. The Federal-State program of unemployment insurance protects these workers against unemployment from causes beyond their control.

Old-age and survivors insurance is designed to meet the presumed needs of certain categories of people. The groups to whom monthly benefits are now payable are as follows: retired insured workers who have reached the age of 65, their wives age 65 and over, and their children under the age of 18; widows (age 65 and over) of insured workers; surviving children (under the age of 18) of deceased insured workers; widows (regardless of age) of insured workers if they have such children in their care; and dependent aged parents of insured workers who died without leaving a widow or a dependent child. Lump-sum death benefits are payable if the insured worker had no relative eligible for a monthly benefit at the time of his death.

A worker's retirement benefit is related to two factors: his "average monthly wage" up to the time of his death or retirement, and the number of years during which he contributed to the program. Because relatively small weight is given to years of coverage, the benefits paid on the accounts of workers who retire or die in the early years of the program are not much lower than the benefits of workers who spend longer periods under the program. The benefit formula favors low income workers by giving proportionately more credit for the first \$50 of average monthly wages than for amounts above \$50, and by providing a minimum benefit which is relatively liberal when compared with the benefit amounts in general.

To encourage and assist States in establishing unemployment insurance programs, the Social Security Act of 1935 provided for the levy of a pay-roll tax on employers of 8 or more in industry and commerce and allowed employers a credit against that tax for premiums paid to States under unemployment insurance laws meeting specified standards. A State can cover employers of fewer than 8, or employers engaged in types of employment not subject

to the Federal tax; but no State has chosen to cover farm workers.

A worker's right to unemployment benefits stems from the fact that his former employer has paid premiums on his behalf. Benefits are paid to such workers, however, only if they meet specified conditions or tests designed to assure that they normally work but that they are now unemployed, are available for work and unable to find suitable work.

Farmers have been excluded from old-age and survivors insurance coverage, and farm wage workers from unemployment insurance and old-age and survivors insurance coverage mainly to aid the administration of these programs in initial years. The exclusion of farm work from coverage has not only left rural people without protection which they badly need but it has caused many of them to make some contribution to the system without obtaining sufficient credit to qualify for benefits. To the extent that they work in employment covered by the Act—and relatively large proportions of farmers as well as farm wage workers engage in some nonfarm work—they must pay premiums and their employers must contribute on their behalf. If coverage were extended to farm work the premiums which they had paid or may pay in their non-farming jobs would become effective in helping to qualify them for benefits and in determining the amount of their benefits. Furthermore, the farm population as purchasers of farm supplies and machinery and other industrial goods is undoubtedly carrying a share of the cost of the social insurance program since at least a substantial part of the contributions paid by employers in industry and commerce is pushed forward into prices.

Public assistance.—With the passage of the Social Security Act in 1935, the Federal Government undertook responsibility for sharing in the cost of assistance to special groups requiring long-time and expensive care—the needy aged, dependent children and the blind. Through grants-in-aid to the States, the Federal Government matches (within certain limits) the amount paid by the State to these individuals. The programs are administered through State agencies in accordance with State plans submitted to and approved by the Social Security Board. Each State is free to decide the level of living which it will use in determining whether an applicant is needy.

Marked differences in the resources of the States have resulted in wide variations among States in public assistance payments. Un-

like social insurance, fulfillment of all the various eligibility requirements for public assistance does not assure automatic receipt of aid. Poorer States, which are generally those with predominantly rural population, have often had insufficient funds to meet, on the basis of their own established standards, their share of the need of all who are eligible for public assistance. Waiting lists of eligible applicants may be established or, more commonly, only a portion of the assistance payment necessary to meet an individual's need may be granted.

Failure of the present Federal-State programs of public assistance to meet the needs of farm groups results principally from two factors. Because the amount of Federal funds that can be granted to a State is limited by the amount spent by the State and its localities, the Federal share does not compensate for the lower economic capacity of rural States as compared with industrialized States. And because the Federal Government pays no share of the costs of general assistance, farm people who need aid when sick, or during periods of crop failure or insufficient earnings, often find that their localities or States are financially unable to provide even the most meager assistance.

*A Comprehensive Social Security Program
Including Farm Groups*

The Social Security Board recommends that a strong comprehensive social security program be built upon the basic framework of our present system by extending social insurance protection to groups which are not now covered and by providing protection against additional threats to economic security. In the light of the experience of the last ten years, the Board has made recommendations which would strengthen and improve the programs available to all workers and which would make it administratively feasible to cover new groups.

Old-age and survivors insurance.—Extension of coverage would raise the benefit levels of many workers by crediting all of their earned income instead of only those wages which they receive in commerce and industry. Further modifications, however, are necessary to improve the general adequacy of benefits. At the present time, the average wage on which benefits are based is reduced as a result of periods when an individual is unable to earn because of sickness, extended disability or unemployment, as well as by

periods spent in noncovered employment. The exclusion, in computing the average wage, of periods with little or no earnings would result in benefits which bear a more reasonable relationship to the actual level of past earnings.

The reduction of the minimum age at which women qualify for benefits from 65 to 60 is advisable for two reasons. First, women have more difficulty than do men in obtaining employment when they are in their sixties. And second, because wives are usually a few years younger than their husbands, a lower eligibility age for women would permit more wives to claim benefits at the time of their husband's retirement.

The Board favors the retention of the principle that social insurance benefits should be paid to persons presumed to have suffered a real loss of earned income. However, the present test of whether benefits should be paid or not is unduly low; benefits are withheld for any month in which a person earns \$15 or more in covered employment. A more liberal "work clause" would permit retention of the principle and at the same time recognize that beneficiaries may take an occasional job even after retirement.

In bringing farmers and other persons who operate their own businesses under the social insurance program, special arrangements are necessary for the reporting of earned income on which premiums and benefits would be based. Farmers who are required to file income tax returns already make the essential computations and could readily prepare a suitable supplement to their income tax return. For farmers not filing returns, an estimate of income or a flat minimum contribution might be submitted as an alternative to a report of actual net income.

To report wages and to remit premiums paid by and on behalf of farm workers, a stamp plan could be used by employers who do not ordinarily keep records.¹

Adjustments in the present provisions of the Act are necessary in order that newly covered groups shall not be handicapped by their late entrance. Solutions have been worked out to eliminate the need for retroactive premiums and reports of earnings. Similarly, adjustments in insured status requirements and reporting procedures have been developed to take account of the fact that

¹ See Wilbur J. Cohen, "Foreign Experience in Social Insurance Contributions for Agricultural Labor and Domestic Workers," *Social Security Bulletin*, February 1945, pp. 5-10.

the income or earnings of farm groups are not spread evenly throughout the year.

Cash disability benefits.—The breadwinner who is permanently disabled has just as much need for a retirement income as the aged worker; his need is even greater if disability strikes during youth or middle age when family responsibilities are usually largest and before he has had time to accumulate savings. The Social Security Board therefore recommends that all gainfully employed persons including farmers be covered by insurance against the risk of permanent or extended disability, and that such disability insurance follow the pattern of the old-age insurance program with which it would be coordinated.

The wage loss which results from temporary sickness or from the early stages of disabilities which may later prove permanent resembles the wage loss due to unemployment; all persons who work for wages or salaries need protection against this disability risk. Farm operators, like self-employed persons generally and unlike farm wage workers, may weather short periods of temporary disability without reduction in their annual income.

To assure that workers still incapacitated after receiving the maximum number of weeks of benefits for temporary disability would continue to receive compensation, with appropriate adjustment of benefit levels to the duration of disability, a single unified program insuring against both temporary and extended disability would be most effective and most readily administered.

Medical care insurance.—A national health insurance program holds significance for farm groups even beyond the assurance that the uneven and unpredictable costs of medical care will be met through small and regular prepayments. In rural areas, today, many a family with considerable cash resources goes without needed medical attention because of the unavailability of doctors and hospitals. Farm people cannot hope to attain adequate medical care until more physicians are attracted to rural areas and more hospitals and health centers are constructed there. But to encourage the location of doctors and hospitals or clinics in rural communities, it is necessary to assure that these health services and facilities will be used and paid for. Medical care insurance would provide this guarantee.²

² Cf. *Better Health for Rural America*, U. S. Dept. of Agriculture, Washington, D. C., 1945, 34 pp.

The President's health program, transmitted to Congress on November 19, is especially important for farm people. They, more than others, need more adequate facilities, more effective distribution of professional personnel (doctors, dentists, nurses, etc.), and more adequate public health and maternal-and-child health services—as well as prepayment for medical and hospital care. Moreover, in light of their less favorable income levels and distributions, they have an unusually large stake in a national program that will—in greater or lesser measure—pool financial resources that are earmarked for health services.

Neither the course of present developments in this country nor experience in other countries which have tried voluntary health insurance gives any indication that comprehensive and adequate arrangements to insure medical costs can be made in any way except through a compulsory insurance system. In this aspect of health security the United States faces a situation not unlike that in old-age security a decade ago. At that time many employers had established sound retirement systems for their workers; some persons had banded together to provide for themselves as a group or had made adequate individual provisions through annuities or other forms of commercial insurance. It was clear then, however, as it is clear now for medical care insurance, that these voluntary arrangements could not be expected to extend to even a majority of the population in need of insurance or to the groups whose needs were greatest.

Medical care insurance would enable self-supporting families to pay for and get needed medical services without any important alteration because of the insurance system in present forms or organization of medical practice. Moreover, families dependent on public funds could be covered through payment of contributions on their behalf by the agencies administering assistance. They thus would receive care in the same way in which others receive it; the stigma and the inadequacy of "poor-law medicine" could be wiped out.

Contributions equivalent to about 3 percent of annual earnings would pay for adequate basic medical and hospital services for both workers and their dependents. A more comprehensive system would cost the equivalent of about 4 percent. These costs would be no more than now is spent by families on the average. They are less than the average expenditure by families in the low income

groups, since, contrary to the general impression, low-income families spend, on the average, a larger proportion of their incomes for medical care than families in better circumstances, though—because of their more frequent and severe illness—they receive much less in relation to what they need.

The Board believes that it would be simplest, most economical, and most effective to establish comprehensive protection through Federal legislation, while providing authority to utilize State agencies and other facilities. In any event, administration of benefits should be so decentralized that all necessary arrangements with doctors, hospitals, and others would be worked out on a local basis. The general pattern of arrangements with hospitals and doctors should be developed with the collaboration of professional organizations and with careful regard for regional, State, and local circumstances. In each area of administration—local, State and Federal—policies and operations should also be guided by advisory bodies representing those who pay the insurance contributions and those who provide the services.

The much-advertised fears of “socialized medicine,” “regimentation” of doctors, hospitals, or patients, loss of the patient’s freedom to choose his doctor, and deterioration of quality of care can be made wholly groundless. A system of medical care insurance can and should be so designed as to avoid these disadvantages. By making services readily available to those who need them, the quality and effectiveness of service may be improved, and the incomes of doctors and hospitals may be made better and more secure. If, at the same time, professional education, research, and the construction of needed facilities are financially aided as was proposed in the President’s message progress in medicine and improvement in national health can be greatly accelerated.

Unemployment insurance.—Because unemployment is essentially a national problem, the Social Security Board believes that it can be dealt with most effectively and economically by covering all wage and salary workers under a national system with decentralized operation. A national system is particularly advantageous in the extension of unemployment insurance to agricultural workers because a relatively large number of them work in more than one State during a year. Administrative problems of covering farm workers, whether under a comprehensive Federal social insurance system or under our present Federal-State pro-

gram of unemployment insurance, are capable of solution and do not justify the continued exclusion of a group of workers badly in need of protection against the risk of involuntary unemployment.³

Public assistance.—The Social Security Board has made recommendations designed to strengthen Federal-State public assistance programs, particularly in rural areas. The Board proposes that the Federal Government contribute more than half of the cost of public assistance, including general assistance, in States with relatively low financial resources. With the assumption of additional Federal financial responsibility, it would be reasonable to require that States eliminate residence requirements and other restrictive tests which now hinder the payment of assistance to needy persons.

Costs of a comprehensive program.—The premium rates which workers, their employers, and the self-employed would pay for comprehensive social insurance protection would depend, in part, on the policy adopted with respect to government participation in the program through general revenues. If the coverage of the system is extended to our entire working population or to most of it, a government contribution out of general revenues is consistent with sound fiscal policy. One proposal for a comprehensive social insurance program, which contemplates an eventual government contribution of about a third of the costs of the program, proposes a premium of 4 percent of wages and salary to be paid by workers, with a like amount to be paid by their employers. Under this proposal the self-employed, who would not be insured against unemployment or temporary disability but who would assume the responsibility for the combined employer-employee premium for the benefits to which they are entitled, would pay premiums of 5 percent of their earned income.

Any consideration of whether the population as a whole or any group in the population can afford to pay the costs of a comprehensive social security program must recognize that these are by no means entirely or even largely new costs. We have always met the costs of old age, sickness, and unemployment, whether through individual sacrifice to pay large doctor bills or to support an aged parent, through taxation to finance relief programs, or otherwise.

³ Wilbur J. Cohen, *Unemployment Insurance and Agricultural Labor in Great Britain*, Social Science Research Council, Committee on Social Security, Pamphlet Series No. 2, 1940.

A social security program provides a more orderly and equitable method of meeting these costs; its expenditures are largely old and not new, representing chiefly a reordering and a redistribution among people and over periods of time.

The farmer's investment to provide security for himself and his farm worker on a par with the security of nonagricultural workers would pay extra dividends by increasing the attractiveness of farm work. Protection which farm groups need against the causes of individual or family economic insecurity can best be provided under a well-rounded, unified social insurance program covering all types of workers and supplemented by a strong assistance program which takes care of special needs not met by insurance. A social security program built on these lines would enable all gainfully employed individuals to pay for basic security for themselves and their families, purchasing or accumulating privately such additional security as they want or can afford. It is, therefore, in accord with our best American traditions.

SOCIAL SECURITY FOR FARM PEOPLE*

KENNETH H. PARSONS

University of Wisconsin

THE quest for security is old but the campaign for social security has only begun in America. Some early battles have been won brilliantly but the goal is still afar off. When victory is complete all industrious and able-bodied citizens will have the assurance that loss of their jobs, their own old age, incapacity or untimely death will not leave their families destitute. The means are new forms of social action which are being devised as the campaign progresses.

Farm people in America have inherited the privileges of property, i.e., job, ownership, and a family type of economy which have enabled the more fortunate and industrious to work out a tolerable degree of security for themselves. But as farmers become more and more an integral part of the unstable and impersonal business economy of the 20th century, insecurity haunts them as it does all modern men of little means.

Our task today, as we see it, is to try to think through the more urgent issues in social security as they confront farm people in America. In doing this we must view things comprehensively; we run the risk, therefore, of mistaken assertion as we weigh issues and form judgments in controversial matters about many of which we lack expert knowledge. But if the remarks are taken in the spirit intended they may improve our perspective and help clear the ground for the next step forward.

This paper will deal with three main aspects of social security for farm people: (1) the family farm as an instrument for providing security to the participants; (2) modifications in the present Federal social security program to insure equitable treatment of farm operators; (3) the extension of the Federal social security program to include farm wage workers and croppers. Finally, some comments will be made on the way in which differences in viewpoints in economic theory influence one's conception of social security. The brevity of the remarks requires that for the most part tentative conclusions or judgments must be stated without benefit of the supporting argument and evidence.

* A paper presented at the annual meeting of the American Farm Economic Association, Chicago, December 27, 1945.

The Family Farm as a Means to Social Security

We shall not take time to extol the virtues and weigh the deficiencies of the family farm as an economic and social unit. Rather we accept the preferences for the family farm, expressed both in public policy and by farm people, as being valid and valuable. The family farm, in our judgment, is not simply a sentimental luxury. In some form it has served, from time immemorial, as the basis for a relatively secure way of life. Current apprehension regarding the "security" possibilities of the family farm comes largely from the failure of farm families to acquire ownership of their farms. But there are possibilities for improving family practices with regard to property that deserve consideration. In fact the majority of farm operators in the Midwest have always managed to acquire title to the farms they operate. This success may be improved by the adoption of better relevant social practices.

Although we have talked a great deal about the family farm, there has been relatively little investigation of the family or property aspects of the farm. Rather we have assimilated our thinking about the whole to our prevailingly individualistic concepts. Our analysis of farm operations has emphasized the labor income of the operator, with little or no investigation of the peculiar advantages accruing to a family unit where father and son, or sons, worked together; our land tenure research has emphasized the agricultural ladder experience of the operator without relating the analysis to the alternatives of the parents who may have sold the farm to the son; our analyses of capital accumulation have been largely subordinated to the study of savings from current operations, neglecting the extent and possibly critical importance of family assistance.

This bill of particulars might be altered by a more careful and exhaustive survey, but it may be sufficiently accurate to help focus our attention upon the fact that the family and property aspects of the family farm merit careful investigations. The point is, that improvements in family and property arrangements may provide ways of realizing much more fully the "social security" possibilities of the family farm; at the same time the operating efficiency of the farm may also be increased.

In Wisconsin, for example, our dairy farms appear to be more dependent upon family labor than ever before. But our research indicates that where a man and wife operate a farm alone, the vol-

ume of production follows the pattern of physical energy of the farm operator. Beginning at about age forty, both the size and intensity of farm operations gradually decline, where the couple work alone.¹ However, where a son works in the enterprise, this decline in productivity is avoided. This avoidance of the "running down" of the farm affords a substantial opportunity for the son in the enterprise. We also find in one community studied that where appropriate and supporting property arrangements are made and the farm transferred intact as a full operating concern to a son, that farmers have successfully attained full ownership of their farms. The parents usually retire to live on a modest property income, secured by a variety of interests retained in the property.²

If we can solve some of these riddles of family and property arrangements, a considerable proportion of American farmers should in the future be able to own the farms they operate. If so, and to that extent, the long standing public policy for social security for farm people can be realized. Above all, in this connection, a general social security program should not be premised upon the assumption that farm families are destined to become landless tillers of the soil; nor should methods of financing such a general program be followed which will impair unfairly the capacity of farm families to acquire their farms.

*Some General Provisions of the Present Federal Social Security
Program of Major Interest to Farm Operators*

The present social security program has three main parts: pensions for the needy aged, blind and widowed; retirement annuities through old-age and survivors insurance; and unemployment insurance. Farm people are included only in the pension system. Several proposals have been made to extend the social security program to include other services, particularly health protection and disability compensations. There is an especially great need in rural areas for better health services; and probably the incidence of disability is relatively high among farm people. However, due to space limitations the remarks in this paper will be confined to a

¹ Research by the author and E. J. Long, soon to be published by the Wisconsin Experiment Station.

² The analysis is presented in a bulletin by the author and E. O. Waples, soon to be published as *Keeping the Farm in the Family*, Wisconsin Experiment Station Research Bulletin No. 157, September, 1945.

consideration of the three present programs of the Social Security Administration and the possible extension of them to farm people. As far as farm operators and other self-employed persons are concerned, unemployment insurance is obviously unsuited to them. The pension system includes farm people at present on the same basis as other needy persons. For farm operators, therefore, the principal and fundamental questions concerning the present social security programs arise from the operation and possible extension of the old-age and survivors insurance program.

The old-age and survivors insurance program was established in 1935 as a method of providing aged workers a retirement income by "right," through worker and employer contributions. In 1939 the program was modified to grant better treatment to widows and surviving minor children. The retirement income to which each member is entitled depends upon his past earnings and the length of employment. In this way the worker can receive a retirement income even though he is not in poverty. Also retirement incomes vary roughly according to previous wage rates. In the absence of some method of varying benefits according to past earnings, a retirement income program would have to grant either a flat pension to all persons over a stipulated age or subject all aged persons to a "means" test; income by "right" avoids these difficulties. In theory this purpose has not been abandoned; in practice the case is not clear because of modifications in the financial and reserve provisions.

The reserve fund for old-age and survivors insurance is primarily a device for distributing income through time rather than among persons or classes. For the most part its use is based upon the implicit acceptance of the prevailing disparity of income between workers, but the present scale of contributions and benefits does give the lowest paid workers preferential treatment.

The original 1935 social security act provided for a genuine actuarial reserve fund. This fund was to have been built up from the contributions over the years. This reserve was frequently interpreted as simply the difference between cash income and benefit disbursements. But this is only part of the conception of a reserve. Parker has defined the actuarial reserve as follows: "The reserve represents the difference between the sum required to cover the present value of future liabilities and the sum which represents the present value of future contributions. . . . If con-

tributions have been accurately fixed and regularly paid from the very beginning, the reserve would be so large that, when added to future contributions, it will cover all future benefits."³

As originally projected it was estimated that the actuarial reserve account would have reached a peak in 1980 with assets of 120 billion dollars and liabilities of a like amount for the payment of future benefits. The assets, as estimated, would have been 73 billion dollars due in the future from insured members during the remainder of their working lives and 47 billion dollars built up from previous contributions by members and from accumulated interest on these contributions. Thereafter the fund would have remained virtually stable.⁴ It was soon recognized that the costs of the program in the early years would likely exceed the estimates, with the consequence that the cash reserve would not reach the 47 billion dollars even with the projected maximum pay roll tax rates of 6 percent after 1949. But the reserve fund became the object of misunderstanding, suspicion and acrimony.

There are many difficulties with the operation of the reserves; I do not pretend to understand them all; and I can make only a few comments here. But a few main points can be made clearly. The reserve was originally intended to implement collective saving and assuring to the worker an income by "right." The program was intended to be self-supporting from pay roll deductions. The money paid into the reserve during the worker's active employment was to be invested like other insurance reserves, except that the law provided that the treasury invest in these surplus funds at 3 percent interest (since reduced to $2\frac{1}{2}$ percent). A concerted attack was made upon the actuarial reserve and it was abolished in favor of a contingency reserve. The result is that the pay roll deductions have been kept at 2 percent, liabilities for future annuities are accumulating, and the funds are not being raised from pay roll taxes to meet them. The present working presumption appears to be that if the pay roll tax revenues are not adequate, the difference will be made up from future general tax revenues.

It is also recognized that there are many important fiscal difficulties with a true reserve system; it would be large enough to effect substantially the total balance of savings and investments in the

³ J. S. Parker, *Social Security Reserves*. American Council on Public Affairs, Washington, D. C., p. 35.

⁴ Eleanor L. Dulles, "Financing Old Age Insurance," *Annals of the American Academy of Political and Social Science*, March, 1939, Vol. 292, p. 177.

economy. Also pay roll taxes are regressive, at least in the lower wage brackets. A reserve from pay roll deductions might, therefore, lead to "over-saving" and a depression of investment. However, this handicap, if realized, can be offset by public investment programs. It should be recognized that the abandonment of true reserve financing weakens the case for a retirement income "by right" and makes the annuities a general liability. In my judgment, the evidence and arguments are preponderantly in favor of the use of a substantial reserve fund financed by pay roll deductions.

It was originally estimated that benefit payments in 1980 would be equal to 10 percent of the pay roll at that time. This 10 percent would be met, it was calculated, by the 6 percent pay roll tax plus the earnings coming from interest on the accumulated reserve. It was soon recognized that the prospective costs would likely be higher than 10 percent in the mature system. Witte remarked in the Hearings on Social Security in 1939, that 12 or 13 would be the more probable figure.⁵

A permanent financial foundation for even the present program of minimum retirement annuities of \$10 per month and a maximum of \$85 per month virtually requires some sort of continuing support out of general governmental revenues. If the present policy of building up only modest reserves is continued, then even the maximum 6 percent pay roll levy provided for in the original act (to begin in 1949), would probably be inadequate to meet as much as two-thirds of the prospective costs.

The question must be faced within a decade as to whether and how much general governmental revenues will be put into the provision of annuities. The most reasonable suggestion yet made, in my judgment, is that by the Advisory Council of 1939 which recommended equal participation by government, by employees and by employers.⁶ Under present benefit rates this government contribution would probably be equal, approximately, to 3 or 4 percent of the national income in a mature retirement system. If the pay roll deductions are made at less than two-thirds of the total cost, obviously the governmental contribution would be proportionately greater.⁷

⁵ Hearings Relative to the Social Security Act Amendments of 1939—before the Committee on Ways and Means, House of Representatives, 76th Congress, First Session, 1939, p. 1761.

⁶ Statement of Policy on Old-Age Insurance, Advisory Council on Social Security, 1939. Final Report, 76th Congress, Senate Document #4, p. 24.

⁷ Andrews has proposed that the finances be stabilized by government assumption

The importance to farmers of a permanent and sound financial foundation for the old-age and survivors program is self-evident. The abandonment of the self-supporting pay-roll deduction system throws a contingent liability upon general tax revenues. To this extent, farm operators and other self-employed will be contributing to retirement incomes for wage workers without receiving any direct benefits themselves. The original true actuarial reserve was advantageous to farm operators; but this is probably gone beyond recall. The next best thing is to peg the future liability at some reasonable maximum, such as one-third.

The liabilities to farmers under such a financial plan could be partially offset by the establishment of a voluntary system of annuities made available to all self-employed, including farmers.⁸ Under this suggestion, farm operators electing to participate in the annuity program would pay the full rate for both employer and employee. The size of the annuity would correspond to contributions exactly the same as for wage workers—crediting the workers with the contributions of both employer and employee. A minimum contribution should be required for participation. Presumably the contribution would vary roughly with the labor and management earnings of the farm operator, but if the contributor received ample value there would be no necessity to make the farmer's contribution exactly proportional to his income.

The inducement to join the program should be the prospective security of old age and survivors income. A general tax subsidy of one-third the cost should make an annuity reasonably attractive to farmers. Tenant operators would then have the privilege of choosing between buying an annuity and attempting to buy a farm.

If the prospective costs to general taxation of old-age and survivors insurance can be pegged at not to exceed one-third of the total, then the cost to farmers should not seriously impair their private investment and capital accumulation programs for the ownership of their farms. A campaign to raise pay roll taxes sufficiently high to meet two-thirds of the cost would undoubtedly have rough sledding; also a proposal for partially subsidized an-

tion of one-half the cost. Daniel K. Andrews, "Old Age Security for the American Farmer," this JOURNAL, August, 1945, p. 647.

⁸ Such a plan of voluntary annuities was originally recommended in the report of the President's Committee on Economic Security, 1935, p. 34.

nuities would be fought bitterly by some of the same groups who have succeeded in holding down the security reserves. But the alternatives available to farm people are either (1) a program with limited liabilities for taxes, and one holding some promise of benefits to themselves; or (2) one in which they bear a substantial and probably much greater direct cost for industrial annuities or old age pensions.

*The Extension of Old-Age and Survivors Insurance and
Unemployment Compensation to Farm Laborers*

Farm people have been excluded from membership in the social security programs for old-age and survivors insurance and unemployment compensation on two bases: as self-employed—all of whom are excluded; and as agricultural laborers.

The original administrative rule defined agricultural labor as "services performed by an employee of a farm owner or tenant on a farm in cultivating the soil, raising, and harvesting crops or in raising livestock, bees and poultry"—as well as "certain other activities, such as processing, packing, transportation and marketing when carried on as a part of ordinary farming operations."⁹

In 1939 the Congress defined agricultural labor, at the request of the Social Security Board. The conception of "agricultural" was greatly expanded. The result was a greatly enlarged definition of "agricultural" even to include work in special trades or occupations such as carpenters or mechanics when performed on farms, nurseries, greenhouses, and irrigation systems; this had the effect of excluding several hundred thousand workers from membership in the social security programs. Chairman Altmeyer has reported that "the status of some 550,000 to 850,000 workers with respect to both old-age and survivors insurance and unemployment insurance" was adversely affected. "The majority of these workers were not actually engaged in cultivation or harvesting agricultural products in the employ of farm owners or operators."¹⁰

Of greater importance to the majority of farm people is the fact that membership in the social insurance programs follows jobs. The individual and his employer are taxed if the work is done in employment covered in the act; the worker builds up rights to

⁹ Arthur J. Altmeyer, "Social Security for Industrialized Agriculture," *Social Security Bulletin*, March, 1945, Vol. 8, No. 3, p. 2.

¹⁰ Altmeyer, *Ibid.*, p. 3.

compensation only if he participates sufficiently to qualify for benefits.

Old Age and Survivors Insurance.—The consequence is that millions of persons who move from "covered" jobs to those without the system such as agriculture, are taxed for old age and survivors insurance, for example, without ever qualifying for a retirement income. Professor Witte has observed that "at least one-third, and probably more of the people who are covered for tax purposes, will never be able to qualify for benefits."¹¹

The discrepancy between the "cover" for tax purposes and for benefits was greatly widened in 1939 by changes in the qualification for benefits. Under the original act persons who did not qualify for retirement incomes were entitled roughly to the return, at age 65, of their previous contributions with $3\frac{1}{2}\%$ accumulated interest. This provision was abolished in 1939, as a part of the general revision in the interest of greater benefits to the family, widows and minor children, and the stiffening of the qualifications for benefits. Whereas total earnings of \$2,000 in covered employment qualified a person for a retirement income under the original act, under the terms of the 1939 revision, a worker must earn at least \$50 in covered employment in each of 40 quarters, or in at least one-half the quarters elapsing since 1936.¹²

Duoff has estimated that at least 4 million persons normally work on farms at least a part of the year. Of these 1.0 to 1.5 million are estimated to have worked on one farm most of the year, with 2 to 3 million engaged in seasonal farm work. Among the seasonal laborers from one-half to one million are evidently migratory workers.¹³

The inclusion of agricultural labor as covered employment would eliminate the anomalous and unjust treatment of this large group of workers, many of whom are already contributing to the fund when working in covered employment. In addition to including these bona fide farm workers, the inclusion of agricultural labor in the annuity program would reinstate several hundred thousand

¹¹ "Post War Social Security," in Seymour Harris, *Post War Economic Problems*, McGraw-Hill, 1943, p. 273.

¹² For more detailed and accurate statement of qualifications see Parker, *Social Security Reserves*, Chap. VI, The 1939 Amendments to the Social Security Act, p. 66 ff; also Andrews, "Old-Age Security for the American Farmer," this JOURNAL, August, 1945, p. 638-639.

¹³ Louis J. Duoff, *Wages of Agricultural Labor in the United States*, U.S.D.A. Technical Bulletin #895, July, 1945, p. 17-20.

workers who are not really engaged in farm operations but who were denied participation in the old age and survivors insurance program in 1939 by the expanded definition of "agricultural labor." Farm laborers, including share croppers, should be brought under compulsory participation in the old-age and survivors insurance program.

The plain fact is that we have already developed a permanent hired-labor-using type of farming in many of our specialized production areas. It is also likely that we are rapidly developing a permanent farm labor class, one which has virtually no chance of ascending the traditional agricultural ladder to self operatorship. They deserve the protection of social security as much as any large group of people; they are already helping to pay for it;¹⁴ and such protection if paid for either by pay roll deductions or by progressive taxation will strengthen the relative competition position of the family farm. The addition of even a 3 percent pay roll tax to all hired workers on farms producing less than \$2,500 in value of product in 1939, would have added less than one-half of one percent to the total costs of production. On farms with more than \$10,000 in value of product a 3 percent pay roll tax in 1939 would have increased total production cost up to 1 or 1½ percent.¹⁵ Hired labor is concentrated on the larger farms.

The inclusion of share croppers in a compulsory program would present a special problem, but it can be worked out. In some states, including Arkansas, South Carolina, Georgia, Virginia and Louisiana, share croppers are legally wage workers, without a "title" interest in the crop they grow.¹⁶ Furthermore, the effective "will" of share croppers generally is a matter of custom rather than law. Also, share croppers shift from "cropping" to wage work from year to year and even from day to day within the season. Share croppers have virtually all of the disabilities and insecurity of wage hands. They have small chance of acquiring sufficient property to provide any retirement income. They should be given the same social security benefits as wage hands.

¹⁴ The Advisory Council on Social Security recommended in 1939 the inclusion of farm and domestic hired workers on the grounds of proven administrative feasibility, need, relatively low cost of inclusion and present participation in costs through employment in covered industry. Final Report, p. 23.

¹⁵ Computed from Table 25, Ducoff, *op. cit.*, p. 46.

¹⁶ "A Note on the Legal Status of Share-Tenants and Share-Croppers in the South," A. B. Book. *Law and Contemporary Problems*, Duke University, Vol. IV, No. 4, pp. 539-546, October, 1937.

The compulsory inclusion of wage hands and share croppers in the old age and survivors insurance program, coupled with provision of a voluntary annuity program for tenants and owner operators, all on essentially the same basis of contributions and benefits, would open the way for the elimination of the present discrimination against workers who move from agriculture to covered employment. The tax on earnings of small operators when employed either on other farms or in nonfarm industries would enable them to build up credits for retirement income on an equitable basis; similarly, for farm laborers who are not self-employed at any time. Furthermore, the preferential treatment accorded low paid workers in the very structure of contributions and benefits would be of real help to all these low income farm people; if the minimum retirement income were raised to \$20 to \$25 per month, for participants in the program more than say 10 years, the specter of farm poverty in old-age would be greatly reduced.

Unemployment Compensation for Wage Workers in Agriculture.— I do not see how hired workers on our small general farms can be brought into the present program for unemployment compensation. From a technical viewpoint, inclusion of farms hiring more than three workers even a part of the year might be feasible. At any rate, the inclusion of agricultural laborers employed by farms hiring 6 or 8 workers, the present standard for urban industry, should be administratively possible. Probably no group of workers in America now carries more job risk than the seasonal "gang" labor now employed on our specialized farms. They should be protected; the protection should include share croppers as well as regular wage hands.

There are, of course, many practical difficulties to the inclusion of this seasonal and many times migratory farm labor in an unemployment insurance program. Although the programs now in effect allow for change of employment, etc., the evident and reasonable presumption is that most laborers work regularly at the same plants. In agriculture, at least in the seasonal work on the specialized farms in Wisconsin, the workers migrate from job to job even during the growing season.

Our preliminary investigations in Wisconsin indicate that a Texas Mexican, for example, may come into the state to work on sugar beets, but may spend 8 to 12 weeks working on other crops such as pickles, cherries, truck or canning crops. A considerable

number go to Indiana to pick tomatoes, some return to harvest beets; many do not. For a considerable number of these field hands, approximately steady work is available for them by moving from crop to crop when the weather is ideal. But the weather may delay or hasten crop maturity so that there are gaps of unemployment and idleness—of a few days to perhaps two or three weeks.

In the absence of unemployment insurance, the workers carry the major part of the risk due to bad weather or lack of crops needing labor. This is the consequence of our established voluntary system; however, the publicly recruited and administered labor gangs during the war, imported nationals and prisoners of war, have been employed on a guarantee of at least three-quarters time at full employment.

The inclusion of this kind of labor in unemployment compensation programs would evidently require that the physical and seasonal pattern of work on successive crops and for different employers be accepted. Consequently we would need some sort of pooled employer accounts for these seasonal employers, or an assignment to each grower of a definite period of time during the season. Furthermore, unemployment compensation to be effective would have to be available after only one or two days involuntary unemployment. Furthermore, the rights to benefits would somehow have to be limited to the periods when employment might reasonably be expected upon the particular crop. The standard two weeks industrial waiting period would still leave the worker without protection; the standard period of benefits—14–16 weeks, would be too long.

That some feasible program can be worked out, I have no doubt; also, I think employers, at least in our state, would be willing to accept a reasonable program; during this past season employers experienced great difficulty through labor leaving the area before the end of the season. The cost of whatever is done to stabilize this labor supply should be carried by the industry; otherwise the community will be discriminating against the small-scale family-type farmer.

A Concluding Note on Economic Theory and Social Security

Social security in America has grown in large part from labor legislation—the police power regulation of employee-employer re-

lationshi¹⁷ To be sure the present program includes a Federal-State-local pension system for the needy; but even here the evident intent, at least in the 1935 social security act, was to supplant or minimize future pensions by assured, "rightful" incomes to wage workers through social insurance programs, financed by contributions taken from the industrial wage-income stream. In other countries the origins are different, and we may change the fundamental orientation of our own program. But the antecedents and fundamental relations to established democratic procedures and institutions are important in the present system.

Also, there are differences between economists regarding the basic principles which should be followed. At the risk of doing violence to the viewpoints held, I want to note two very different approaches to the subject. A large group of students of social security are evidently concerned *primarily* with the operation of the whole economy and judge the social security program by the way in which it operates in relation to the whole economy. To them the basic questions turn on having benefits sufficient for need. The postulate appears to be that an economy ought to provide a decent living for all citizens. From this "operational" viewpoint it is a short path to the contention that social security finances should be subordinate to fiscal policy; that regressive pay roll taxes should be either minimized or abandoned; that reserves should be held to a minimum; and that government support of social security from general tax revenues is desirable.

The contrasting viewpoint, and the one which appears to be basic to the construction of the original social security act in 1935, is concerned primarily with the welfare of the individual and the family. The viewpoint places *primary* emphasis upon reducing the hazards to life and seeks through the use of social insurance to protect enterprising individuals and families; and upon assuring to the individual an income in old age or times of adversity by "right" through past contributions and virtual contract with his government. Upon this viewpoint the original reserve fund was provided for by applying the insurance principle to collective saving.¹⁸

¹⁷ See E. E. Witte, "What to Expect of Social Security," *Papers and Proceedings*, Fifty-sixth Annual Meeting, American Economic Association, Washington, D. C., January, 1944, *Amer. Econ. Rev.*, Vol. 34, No. 1, part 2, Sup. March, 1944, p. 214.

¹⁸ The issues were clearly drawn in the papers on social security by Burns and

In short, one viewpoint proceeds by analyzing the operations of the economy upon the implicit assumption that society can be reformed to meet the needs of security with only secondary attention to the *forms* or structure peculiar to the American economy. The other viewpoint proceeds from an analysis of the organization or the structure of the economy, under the assumption that an acceptable operation of the economy can be secured as "natural" consequences to the actions of individuals, families and concerns where conduct is guided through socially created inducements, sanctions and security of expectations. We are fortunate, in my judgment, that the Federal social security program was originally premised upon the latter viewpoint and conformed to our established pattern of institutions and democratic procedures. This course should not be abandoned lightly.

DISCUSSION OF PAPERS ON SOCIAL SECURITY FOR FARM PEOPLE

NORMAN J. WALL

Bureau of Agricultural Economics

The two papers presented here this evening have outlined a wide range of suggestions for developing social security for farm people. It is encouraging that we are thinking in broad terms on this important subject. There is quite general agreement as to objectives, but on scope and organization, pronounced differences are found.

The views of the speakers indicate an important difference of opinion as to the proposed compulsory coverage under the old-age and survivors insurance program. Falk and Cohen would include all farm operators and farm wage workers. Parsons, on the other hand, would limit these provisions to farm wage workers, including share croppers; and provide a voluntary annuity program for tenants and owner operators.

The desirability of compulsory coverage of all farm operators under the old-age and survivors insurance program is certainly open to question. The fact that we have farm ownership on as extensive a scale as now exists, indicates that farm operators have acquired a substantial degree of security. For a large proportion of farmers, it seems to me likely that it would be more advantageous to divert income to the repayment of indebtedness or to the further improvement of the farm enterprise, than to make annual required contributions toward an annuity. Even for a farm operator whose farm carries a heavy mortgage indebtedness, some form of term insurance might better safeguard his estate in case of his premature death.

Witte and the commentators at the meeting of the American Economic Association in January, 1944. *Papers and Proceedings: Fifty-sixth Annual Meeting, Amer. Econ. Rev.*, Vol. 34, No. 1, part 2, March, 1944, pp. 198-226.

An alternative method of coverage might be considered in which compulsory coverage would be limited to farm wage workers and tenants. If, under this proposed plan, an option were given to both wage workers and tenants to withdraw their contributions to the annuity system in the event that they purchased farms, this program in time would be a factor contributing to reduced tenancy. It should be recognized, however, that large numbers of tenants are just as much in need of financial security in their old age as are farm wage workers.

In addition to providing old-age and survivors benefits for farm operators as well as for farm laborers and also unemployment insurance for farm laborers, Falk and Cohen have proposed other major changes for making the social security program more comprehensive for all classes covered. These changes would affect farmers also to a greater or less degree. The first two changes, which appear to be logical improvements, are:

- (a) The average wages on which old-age and retirement benefits are based should represent periods of active work and should not be reduced by reason of sickness, extended disability, or unemployment in the base period.
- (b) The minimum age at which women qualify for old-age and survivors insurance benefits should be reduced from the present requirements of 65 to 60 years.
- (c) Their third recommendation has a definite relationship to farm people if the Social Security program is broadened to include them, namely, a higher limit than \$15 per month on permitted earnings after retirement without loss of retirement benefits. The limitation of \$15 of earnings per month was placed on the statutes at a time when unemployment was high and national income was abnormally low. With the wartime expansion of our credit structure, the prospects are that this maximum limitation will look absurdly low in the years ahead. Furthermore, the highly seasonal character of farm labor requirements makes it desirable in order to develop an experienced reserve labor supply, that retired farm laborers be available to meet peak requirements.
- (d) The fourth recommendation provides that extended disability as well as old-age retirement should be covered and cash benefits paid. Farming as a whole is one of the most hazardous of occupations. There is, indeed, need for financial aid to farm families when fatal or disabling accidents impair the ability of the farm family to gain a normal livelihood.
- (e) The fifth recommendation is one of far-reaching importance; namely, a medical care insurance program through a compulsory insurance system. Few would deny that health facilities for a large proportion of our rural areas are woefully inadequate. Yet, if a system of prepaid medical services is provided, some serious problems are encountered. Perhaps if we are fully aware of the scope of the problems, we can take sufficient steps to overcome them. I shall merely mention one or two of them.

The authors of the first paper suggest that the costs of this expanded service would be no more than now is spent. It seems doubtful that average costs in the past can be relied upon to provide an accurate estimate of costs under the proposed program. Undoubtedly, if every family is contributing to a system of prepaid medical service, they will demand more services from the medical profession than ever before. Minor ailments, for instance, which ordinarily might be treated in the home would be brought to the attention of the doctor. If the services demanded of the medical profession are greatly expanded under the proposed health insurance program, will there be enough qualified doctors to meet the demands? If not, to what extent will limitations on the availability of medical services have to be imposed? On the other hand, what incentives can be provided to attract a sufficient number of people to the medical profession in order to provide the amount and quality of services that may be demanded under a comprehensive health insurance program?

- (f) The final recommendation is that Federal contribution to public assistance features of the social security program should be increased beyond the present limit of one-half. This recommendation would be of considerable importance to farmers as many of the agricultural states are low-income states. As has been pointed out, the relatively low financial resources of some states have prevented them from matching available Federal contributions. Under the proposed change, it would be possible to meet more adequately the needs of needy farmers in low-income states.

Turning now to some general problems involved in providing social security for farm people, I should like to touch upon a few of the difficulties that may be encountered in the administration of these programs. In presenting these issues, I am doing so not in a spirit of opposition to the programs but to help point up some of the problems that will have to be solved in order to make the programs operate effectively.

An important problem that must be considered in extending social-security coverage to farm people, particularly if the program is broadened as proposed in the first paper, is that of administrative expense relative to benefit payments made. Any estimate of administrative expense compared with farmer benefits based on existing experience with groups of urban workers would in all probability be misleading. The relative isolation of the farmer or farm workers would make supervision and check-up of claims relatively expensive. At the same time, far closer supervision and more careful check-ups than in the case of urban workers would be required in connection with most parts of the farm program. An insured farm operator, for instance, may decide technically to retire at 65 in order to draw his old-age retirement benefits and continue his operations much as before.

If illness or disability is also covered, a farmer may claim disability when no farm work is pressing and may perform necessary chores on the farm as if he were not "disabled." Likewise, a hired man, possibly in col-

lusion with his employer, may report being unemployed while doing chores for his board and room during the winter season, and use his unemployment insurance for spending money or for additions to his savings. These and other possibilities may be obviated by safeguards of various sorts, but they are quite certain to be costly.

In calling attention to these special problems, it is not the intention to imply that farmers are more prone to dishonesty than urban workers. Their opportunity and hence their temptation to take advantage of their social insurance will be relatively great in comparison with those of an industrial worker who either works and draws his pay or he doesn't.

Parsons rightly stresses the importance of the family-size farm as a means to social security. The type of research which he has outlined in this connection should be helpful in obtaining a better understanding of these problems.

One final thought seems worthy of emphasis in concluding this review. In extending a broadened social security program to farmers we can do much to improve the security of farm wage workers and possibly tenants, and can provide certain security facilities for all farmers. Benefits, however, being based largely on the existing wage pattern, do not fully overcome the basic difficulties of low income groups. As Parsons points out, "... the insecurity inherent in an unstable industrial economy remains to be conquered." Continued high levels of national income and foreign trade are essential to provide the incentives for a major shift of families of low farm incomes to industrial areas or to other types of more profitable agriculture.

RESEARCH DEVELOPMENTS IN FARM FINANCE*

F. F. HILL

Cornell University

A complete review of recent research developments in farm finance would call for (1) a review of research completed and published, (2) a review of research in progress, and (3) a review of research projects contemplated or suggested. Because of limitations of both time and available materials it was impossible for me to undertake such an investigation. I did do the following:

1. Examined for content a considerable number of publications of Experiment Stations and the United States Department of Agriculture dealing with farm finance and published during the period 1940-1945. The object was to determine the scope and character of the research reported upon.
2. Reviewed again the materials relating to research in progress, research contemplated, and suggestions for research in farm finance that came to my attention while serving as a member of the Exploratory Committee on Research in Agricultural Finance appointed by the Financial Research Program of the National Bureau of Economic Research.
3. Reviewed the articles on various phases of farm finance published in the *JOURNAL OF FARM ECONOMICS* and the *Agricultural Finance Review* (USDA) during the past four or five years as well as a few other publications including one or two books.

Published Research

Much of the material which has been published in the field of farm finance in recent years falls into one of the following categories:

1. Reports, largely statistical in character, giving the volume of loans made, paid off, foreclosed and outstanding by class of lender, geographic area, interest rate, and so forth. These reports deal with both real estate and short-term credit.
2. Studies in sample areas of the use of credit by farmers. Typically, such studies report sources of credit, the amount borrowed from each source, and the cost to the farmer of credit obtained from different sources.

* A paper presented at the annual meeting of the American Farm Economic Association, Chicago, December 27, 1945.

3. Loan experience studies. The purpose of these studies is to describe the experience of one or more lenders in a given area and attempt to explain such experience. Studies have been made of the operations of both mortgage lenders and lenders extending short-term credit.
4. Historical studies of mortgage loans, usually in sample areas, with particular reference to source, amount, terms and cost of credit.
5. Studies of mortgage credit systems in foreign countries.
6. Studies of capital accumulation by farm families and of "capacity to pay."
7. Studies of agreements between fathers and sons intended to encourage and facilitate the accumulation of capital by the son and the orderly transfer of property from one generation to the next.
8. Studies of the operation of the Federal commodity loan program.
9. Studies of the operations of production credit associations, commercial banks, joint stock land banks and other lenders including studies of Federal seed-loan financing and of production financing by cooperative marketing and purchasing associations.

The foregoing categories are not all-inclusive but I would hazard a guess that the cost of studies falling in these nine categories would account for 90 percent or more of the funds spent on research in farm finance in this country during the last 10 or 15 years.

In addition to the kinds of studies listed above, there have been a number of important studies of a more general character such as *The Impact of War on the Financial Structure of Agriculture* by Wall, Tostlebee, Horton and others, *Farm Mortgage Credit Facilities in the United States* by Horton, Larsen and Wall, and *The Production Credit System for Farmers* by Butz. Again the list is indicative rather than inclusive.

How appraise the research output of the past several years in the field of farm finance? In the judgment of the writer a great deal of worthwhile work has been done. The principal criticism I would level at the job done to date is much the same as that made by Dr. F. L. Thomsen in the November (1945) issue of the JOURNAL with respect to research in marketing. In the field of farm finance as in marketing, we have frequently played the game of follow-the-

leader sometimes making three or four studies in the same type-of-farming area which are largely descriptive, essentially the same in scope and method, and which differ principally in that one is made in State A and the other in State B. Investigations concerning sources and costs of credit are a case in point. Loan experience studies are another example.

I do not mean to imply that a second or third study of sources and costs of credit within a given type-of-farming area, or of loan experience, serves no useful purpose. The question is not whether a second or third study will of itself be useful. The question is whether it will yield as great dividends as an attack on some other problem on which little or no work has been done, particularly if earlier studies were planned and carefully done. I suspect that a good deal of the repetition that appears in many sub-fields of agricultural economics grows out of the fact that some of us in the Land Grant Colleges undertake projects which are primarily designed to yield factual information for extension purposes, rather than to explore new fields, or develop improved research methods. In my judgment this is a perfectly proper activity for a Land Grant College and a very important one. Anyone who has had experience in doing extension work will recognize the advantage of having materials which relate at least to the State in which the extension work is being done. The greater the degree of localization, the better assuming the work itself is sound. Whether we should label such activities, if we do, as fundamental research and give a doctorate for a thesis based on a repeat study is another question. In any case we need to keep a reasonable balance between projects of this sort and research designed to explore new fields or develop improved methods. Here is a practical problem with which persons in Land Grant Colleges responsible for approving research projects will have to continue to struggle.

Dr. Thomsen, in the article previously referred to, points out that much of the research in marketing has been primarily descriptive. While it seems to me that description is usually a good first step to take, particularly description under varying sets of conditions, I agree with Dr. Thomsen that it is frequently overdone. In the field of loan experience, in which a considerable amount of work has been accomplished, we have for the most part continued to describe *what* has happened without digging very deeply into the *whys*. It is true that trying to track down the "whys"

quickly takes us into farm management in the broadest sense of the term, land economics, and other fields sometimes separated by a line fence from farm finance. What we need to do is to find some way of getting under or over the fence if the answer is wholly or partially on the other side. We have the choice of trespassing or of enlisting the help of research workers in adjoining fields in setting up studies designed to get at the "whys." Enlisting the other fellow's aid is more likely to get sound conclusions and less likely than trespassing to result in getting a load of verbal buckshot, if nothing worse. In the social, as well as the natural sciences, there is increasing need to bring to bear upon specific problems the knowledge and skills of workers in related fields. It seems to me that this is particularly true in the case of a field such as farm finance where the pay-off, literally as well as figuratively, is dependent upon not one but a whole series of complex and interrelated factors.

Beginnings have been made. Studies, based largely on farm management data, of capital accumulation and of capacity to repay loans which take into account not only the average amount but the variability of income available for savings or debt service represent an important contribution. The growing interest of land economists concerned with tenure in the financial processes by which farmers acquire, or fail to acquire, debt-free ownership of their farms suggests future studies that may throw additional light on this important problem.

Research in Progress

Continuing research in farm finance is being carried on by a large number of agencies including colleges and universities, the Graduate School of Banking of the American Bankers Association, the Bureau of Agricultural Economics, private lending agencies, the Federal Reserve Banks, the Farm Credit Administration, and the Farm Security Administration. In addition, the Financial Research Program of the National Bureau of Economic Research is undertaking a comprehensive research program on which I shall comment briefly later.

I do not have a complete list of research projects on which work is in progress, if such a list exists. A survey made a little over a year ago by the Exploratory Committee on Research in Agricultural Finance appointed by the National Bureau of Economic Research suggests that the categories previously described in this

paper as including most of the published research would also include most of the work in progress. There has been a little shift, perhaps, toward studies of income flow, capital accumulation, institutional arrangements and other fundamental factors affecting farm financing which, in my opinion, is a move in the right direction.

Research Planned or Suggested

The following list of specific problems or general areas in which research is planned or has been suggested as urgently needed by persons in close touch with the field of farm finance, was derived from two sources. The first was the work of the Exploratory Committee in Agricultural Finance of the National Bureau of Economic Research. The investigations of the Exploratory Committee included a survey of a large number of agencies relative to contemplated research, suggestions as to needed research from a large number and wide variety of sources, and two extended conferences, one with a group of agricultural economists and the other with a group of lenders at which the broad question of needed research in farm finance was discussed at length.

The second source of items in the list which follows consisted of articles on farm finance which have appeared in the *JOURNAL* during the last three or four years, articles in the *Real Estate Situation* and the *Agricultural Finance Review*, published by the Bureau of Agricultural Economics, and a few other publications including one or two books. It should be made clear at the outset that the list is not intended to be all-inclusive nor is the order of listing intended to suggest relative importance.

A list of problems on which there appears to be a considerable measure of agreement that additional research is needed follows:

1. Financing farm adjustments and improvements including the purchase of additional land where needed to provide an economic unit, the construction, repair, and remodeling of farm buildings, drainage, pasture improvement, the application of lime and phosphate, erosion control and similar betterments.
2. Problems involved in financing the transfer of farm property from one generation to the next.
3. Financing problems arising out of the variability of income available for savings or debt service on different classes of farms. The problem of risk in financing agriculture.

4. Technological changes and their effect on the organization and financing of agriculture.
5. Capital accumulation and depletion in agriculture as they relate to the problem of financing the farm business.
6. The problem of financing the able, experienced farmer with sufficient capital to make only a small down payment on the purchase price of a farm and the problem of financing the low-income farmer.
7. Credit to finance part-time farmers and homes in the country for nonfarm workers. This is largely a no-man's-land in the field of research in finance at the present time.
8. The role of government and private credit in farm finance. The relation of government credit to other government "action" programs.
9. Credit in relation to tenure and tenancy.
10. Credit for special purposes such as forestry, farm woodlot improvement, drainage, etc.
11. The problem of bringing about improvements in the organization and operation of credit institutions and agencies, both public and private, with a view to improving service and reducing costs.
12. The problem of simplifying legal procedures with a view to reducing costs both in making and servicing loans.

I would like to comment briefly on a few of the above items.

Financing adjustments and improvements in agriculture. The problem of financing adjustments and improvements in agriculture is important at any time but it is going to be especially important in the years ahead. We need to know more than we do now about the additional returns that may be expected from various forms of capital investment so that we can determine with greater accuracy than is now possible the amounts that can be borrowed with reasonable safety to both borrower and lender, and the terms of repayment best suited to the probable flow of income. It is in financing adjustments and improvements that the greatest need exists for real intermediate credit written for terms of from one to five years, rather than on a basis of one year with an oral promise of renewal on an "if, as, and when" basis. As Professor Black points out in a recent article in the JOURNAL, the only significant volume of real intermediate credit made to farmers in the United

States at the present time are the loans made by the Farm Security Administration.

The problem of financing adjustments and improvements is one which ought to give us a chance to use what we have learned in the field of farm management. Here is an area in which the budget approach to farm management problems ought to come into its own. Some preliminary studies looking toward the use of this approach are under way at the present time.

Problems involved in the transfer of farm property from one generation to the next. Fee simple ownership has been a characteristic of land tenure in the United States since we became a nation. Owner-operation of farms has been a national objective since early days. Since man is mortal it follows that we have in this country the problem of transferring ownership of farm property at least once each generation.

Prior to the passage of the Federal Farm Loan Act in 1916, we left the individual farmer to scramble up the so-called agricultural ladder from hired man to owner as best he could without benefit of government financing direct or indirect. In late years we have become increasingly concerned about the financial obstacles to getting started in farming as an owner-operator. There is a strong feeling in many quarters that we have not yet found the right answer to the problem of how to bridge the gap between the 10 or 15 percent equity that an experienced and able young farmer may have and the 85 or 90 percent of the purchase price of a farm that must be financed in some other way. Professor Butz and others have suggested that we should explore the possibility of applying the principle of insurance in some such way as has been done by FHA. If such a scheme is to be self-sustaining it will be necessary to have a much better actuarial basis for writing farm loan insurance than is available at the present time. Studies of variations in income and other risks in farming would need to be made on a comprehensive basis. We first need to develop better techniques for measuring financial risks in farming. I might suggest in passing that the course of agricultural prices following the establishment of an insurance scheme, if one is established, is likely to be the most important factor determining whether or not the program is self-sustaining. FHA got started at a good time from this point of view.

In addition to the credit aspects involved in the transfer of property from one generation to the next, we need to investigate

various institutional arrangements and the processes of capital accumulation in agriculture as they relate to the attainment of full ownership in farm property. Some significant work has been done in studying father-and-son agreements intended to facilitate the accumulation of equity capital by the son while operating the home farm, as well as a smooth and orderly transfer of the property when the present owner dies. We also need more information on landlord-tenant arrangements and rental contracts with option to purchase as they bear on the problem of capital accumulation and the acquirement of ownership in farm property.

Financing problems arising out of the variability of income on different classes of farms. Obviously, the amount and distribution of income available for saving or debt service should be a primary factor in determining amounts loaned and terms of repayment. For the most part, however, loans are still written on terms which assume an annual flow of income that conforms closely to the average. A greater measure of flexibility in income payments is undoubtedly both possible and desirable. However, recent studies by Professor Pond and Dr. Cavert, as well as a number of unpublished studies of the Farm Credit Administration, suggest that we need more information on the actual characteristics of income flow before we are in a position to judge accurately how far variable payments will go toward relieving recurring debt crises.

We also need information on the amount and variability of income available for saving or debt service on different classes of farms as a basis for studying the process of capital accumulation, particularly as it relates to building up the necessary capital to purchase the initial equity in a farm. Such information is also needed as a basis for studying the risks involved in extending credit in varying amounts and on various terms.

Technological changes and their effect on the organization and financing of agriculture. It seems clear that one of the important causes of losses to both lenders and borrowers has been a failure to appreciate, particularly in the case of long-term loans, the possible effect of technological changes on the competitive position of different groups of farms. It is also clear that in some cases lenders have been slow to finance desirable changes. At the conference of farm lenders, previously referred to, sponsored by the National Bureau of Economic Research, the lenders strongly expressed the view that the Land Grant Colleges and Universities could make a

real contribution first, in helping to bring about desirable adjustments and second, in helping both borrowers and lenders avoid mistakes, if they would make a greater effort than they have in the past to appraise the probable effect of technological changes on farm organization and relative profits on different classes of farms in their respective states. Admittedly this is a hot potato, but perhaps those of us interested in research in farm finance ought to remind ourselves occasionally that neither farmers nor lenders can duck questions just because they are hot. Our work might be more useful if we took on a really hot problem once in a while.

The role of government and private credit in farm finance. The question of what the role of government should be in the field of farm finance is one on which people will undoubtedly continue to disagree. It is the kind of question on which we have to vote to reach a decision rather than depend upon "sweet reason" to bring about a meeting of minds. How far should government go in extending what has been called "soft" or "subsidized" credit. Should government and government-sponsored credit agencies operate on a fire department basis making loans only during emergencies and turning the business back to private agencies after the emergency is over, or should they make loans in good times and bad acting as a pace setter, as has been suggested by Professor Black and others, and in addition, perhaps, making certain types of loans that clearly cannot be made by private institutions that must pay their own way and show a profit? Should the extension of credit by government and government-sponsored farm credit agencies be used to facilitate the operation of other so-called action programs of government or should credit, like Caesar's wife, be above reproach? These are questions on which people differ. Since we do differ and since we have to vote to reach a decision it is particularly important that we have full information concerning both the character and costs of government operations in the field of farm credit so we can each make an informed decision, if we care to do so, as to how far we as individuals want to go in providing credit through government sources whether of the "subsidized" or "unsubsidized" variety.

Credit for special purposes. One way to determine whether credit for irrigation, drainage, forestry, woodlot improvement and other special purposes will pay its own way or have to be justified, if extended by government, on the basis of its contribution to the

general welfare, is to go ahead and make some loans and see what happens. We have followed this experimental method without careful prior study in making irrigation and drainage loans and so have precedent for a similar policy in the case of loans to finance forestry, woodlot improvement, and other fields of a more or less special character.

While we undoubtedly will enter new fields of this type in the future, it is to be hoped that we make more careful advance studies of the problems involved and how best to do the job than we have in the past. Reforestation and woodlot improvement is an urgent problem, not only on farms but on the "building lots" of nonfarm workers which, in the poorer areas of the Northwest, may range in size from one to several hundred acres. Finance is one of many obstacles to be overcome in getting such land back into trees on a sustained yield basis. In my judgment, however, we need to make more careful studies than have yet been made of the problems involved and possible ways of meeting them before embarking on a hundred million dollar program. This is not to say that we should not go ahead even if our studies show that a program of reforestation and woodlot improvement is not likely to fully pay its own way, based upon an agreed definition as to what constitutes paying its way. For a wide variety of reasons such a program may justify spending some of the taxpayers' money. It is important, however, that we have in advance a basis for making a reasonably good estimate of what the bill is likely to be so that the taxpayer can weigh for himself probable benefits against probable costs.

Improving lending operations and reducing costs. This is a field in which credit agencies themselves need to take an active interest. Some of them have. In New York the State bankers association from the first has taken the view that the way to meet the competition of production credit associations is to adopt improved practices in making and servicing loans, cut costs where possible, and meet the associations on their own ground. So far this policy appears to be working quite well. Research on operating methods and costs made by a disinterested outside research agency can be of real help not only to lenders but ultimately to farmers.

*Research Program of the National Bureau
of Economic Research*

Before closing I would like to refer briefly to the research pro-

gram in agricultural finance of the National Bureau of Economic Research.

Early in 1944 the National Bureau appointed an Exploratory Committee in Agricultural Finance. Professor Earl Butz, serving as secretary of the Committee, made a survey of research completed in the field of farm finance during recent years, a survey of research in progress and contemplated research, and obtained suggestions from a large number of people in close contact with the field of agricultural finance as to areas in which additional research was urgently needed. Based upon these materials and Committee discussion, the Exploratory Committee developed a suggested program of research in agricultural finance. The suggested program was first presented to a conference of about 25 agricultural economists for criticisms and suggestions. It was rewritten incorporating certain suggestions which grew out of the conference and was then presented to a conference of lenders actively engaged in making loans to farmers. Based on the discussions of this second conference, the suggested program was again rewritten and submitted to the National Bureau's Committee on Research in Finance. Additional changes were made, following which it was submitted to the Directors of the National Bureau and approved.

It was recognized at the outset by the National Bureau that the field of agricultural finance is rich in research personnel and facilities. Private lenders, public agencies, Land Grant Colleges and Universities, other universities, and research institutions have already done much valuable work and more is in progress. In accordance with established policy the program of the National Bureau provides for close cooperation with other agencies in an effort to avoid duplication as far as the Bureau is concerned. It is to be hoped that the Bureau will be able to obtain the interest and active cooperation of various organizations and individuals now working in the field to the end that a well-rounded research program may be developed. A cooperative effort of this kind under a carefully worked-out plan should do much to fill the important gaps in our present research.

The National Bureau's program provides for fundamental research in five general areas.

I—The Characteristics of Agriculture in Relation to Its Financing.

II—Costs, Risks, and Returns in Agricultural Finance.

III—Agricultural Credit Institutions: Their Organization and Practices.

IV—Studies of Selected Problems in Agricultural Finance.

V—Agricultural Finance in the National Economy.

These are obviously broad areas for investigation. Part I alone, which deals with the basic characteristics of agriculture in relation to financing, could provide important problems for research that would absorb many times the resources that the Bureau has available for the whole project. Work in this area is the type that the Land Grant Colleges and the Bureau of Agricultural Economics are peculiarly fitted to undertake. It will be the purpose of the National Bureau to work out with these and other organizations a well-integrated program of research on Part I. The cooperation of other agencies will also be actively sought by the Bureau in carrying on specific projects under Parts II to V. The first task of the National Bureau will be to translate the general statements concerning Parts I to V into specific and manageable research projects. This work is in progress at the present time.

In the judgment of the writer, the National Bureau's research program offers a real opportunity to supplement past research and research now in progress and to bring together, digest and interpret research results from a large number of sources. This should enable us to gain a better overall view of the basic problems in financing agriculture in the United States than we now have and should provide information based on scientific research that will be useful to administrators and the public in developing forward-looking policies.

RESEARCH WORK IN MINIMUM FINANCIAL REQUIREMENTS AND SOME RELATED CONSIDERATIONS FOR BEGINNING FARMING*

WM. L. CAVERT

Farm Credit Administration, 7th District

ONE logical research approach in seeking to solve the problems of an individual considering starting a farm business is for the researcher to imagine himself in the position of an individual. It is assumed that the beginner has already satisfied himself that he meets the minimum requirements as regards technical knowledge, manual skills, industry and general aptitude. Such an individual might be

- a. A returned serviceman who was farm reared and who has the GI Bill guarantee available plus some modest savings
- b. A war plant worker who was farm reared and who has some savings
- c. Any other individual who is thinking of farming as a vocation.

In this paper minimum capital requirements will be treated in their broader aspects, as involving not only the actual dollars required but collateral considerations involving the safety of the investment. One important collateral consideration is the extent to which it is advisable to borrow. Another is the extent to which it is advisable to minimize capital requirements by buying a farm of relatively low productivity.

Anyone contemplating farming would likely have questions such as the following:

1. How many acres are ordinarily required for a successful farm unit?
2. How much will such a unit cost now?
3. How much will be the minimum non-real estate investment for such a unit? The answer to price questions will be desired in terms of current prices. Telling the returned serviceman or the war plant worker what it would have cost in 1935-1939 will not be of much assistance unless it is also stated in terms of the current situation.

* A paper presented at the annual meeting of the American Farm Economic Association, Chicago, December 27, 1945.

4. How much may be prudently borrowed (a) on the real estate?
(b) on the personal property?
5. Is it better to buy a farm that is well improved or to take one on the rundown order, with the idea that one may repair buildings and build up fertility more cheaply than one could buy it?
6. What will be the effect of technical changes just being introduced on the investment in the particular situation?
7. If our serviceman or other individual finds that his funds are inadequate for the purchase and equipment of a farm, should he rent one? How much capital will he require as a tenant? What opportunities does a tenant have?
8. Are prices of farms and equipment likely to be stable, or be higher or lower?

It is fairly clear that much of the research that is needed is careful analysis, interpretation and bringing up to date of available data. If the major effort is centered on the collection of new data, much of the need will have passed before the product sees the light of day.

If a considerable part of the research is to relate to analysis of available data, the first question is which among the available data are likely to be most useful? We may now proceed to consider the applicability of the available data to each of the problems previously mentioned and to consider the scope of new data needed.

Problems 1, 2 and 3: How much land is needed and what will be the needed real estate and non-real estate investment cost? The following are a few suggestions.

Many of the colleges have a considerable body of data that includes detailed inventories of real estate, livestock, machinery, feed and seed together with incomes and expenses of farmers plus a large amount of associated data. In general, a large proportion of the farmers who cooperate with colleges have farms that are larger and better equipped than is necessary for a minimum set-up. However, a number of farms are ordinarily included the set-up of which as regards acres and equipment approaches the minimum for successful operation. Observation of such records in Minnesota and Wisconsin, and conferences with individuals who collect the data suggest that typically, perhaps, 20% to 25% of the cooperators have an investment about as small as is feasible for successful opera-

tion. Those cases representative of near minimum set-ups may be sorted out, and any needed price adjustments may be made to get the data on a replacement basis. Probably there is no objective way of determining which ones approach minimum set-ups. Perhaps securing the consensus of opinion of a group of workers who have worked with farm management problems in the area over a period of years is as satisfactory a method as any. This could well be supplemented by interviews with the farmers who are assumed to have near minimum set-ups. The interview should include the operator's opinion as to what portions of his investment could be dispensed with and still leave him in position to operate successfully as a beginner.

Some of the adjustments that may be needed in adjusting accounting records to a current replacement basis are indicated by the following practices:

- a. Breeding cattle may be carried at cost or value when mature, less depreciation. In farm accounting, a common method is to carry breeding livestock at sale value when mature less annual depreciation from that point to allow for lessened future usefulness due to age. The result of this practice is that in a period of rising prices, the cost to replace a breeding herd may be well above book values. Purchased animals are ordinarily carried at cost less an allowance for depreciation. The result in the case of either purchased or home raised animals is that in a period of rising prices the book value is substantially less than replacement value.
- b. Machinery is ordinarily carried at cost less depreciation. Anyone who has attended a farm auction in recent months will appreciate the fact that cost less customary depreciation allowances gives values that do not approach realities from the standpoint of current replacement costs.
- c. Real estate is usually carried either at cost less depreciation on buildings or at some other figure that is less than current replacement price.

In the case of real estate, livestock, machinery, feed and seed, the effort should be to translate book values into replacement cost. Ordinarily, feed, seed and supplies are on the basis of market as of the inventory date.

In the absence of more local data, real estate may be roughly ad-

justed to current values by applying to the particular farms changes in value indicated by the USDA state index.

In the case of livestock, the annual USDA data as to prices per head may be used as an indication of the percentage change in the price of each kind, or the total prewar livestock investment may be adjusted on the basis of state or USDA indexes of changes in the prices of all livestock. In the case of machinery, the writer does not know of any ready made index that is satisfactory. In a forthcoming bulletin that has been prepared by the North Central Regional Land Tenure Committee of the North Central Agricultural Colleges, the plan is to assume that the 1945 replacement is twice 1937-1940 inventory values.

The values of feeds and seed may be brought up to date by applying state or national indexes of the trend of crop prices to prewar values.

Problem 4: How much may be prudently borrowed on real estate and personal property? This problem is discussed upon the basis that it is difficult to separate the safeguarding of the borrower's equity from his capital requirements. The amount that may be prudently borrowed may be approached in the following ways:

- a. Compile data upon the basis of certain assumptions from continuous records of individual farm receipts and farm household expenditures which may be available from the same operators for a period of years. Data for 11 farms in southeast Minnesota for the years 1931-1943 inclusive were reported in the November, 1944 issue of the JOURNAL OF FARM ECONOMICS.¹ The number of available farms in any state is small as few records are available from cooperators in farm record keeping who have farmed the same land for a period of years. In many cases, data as to household expenses are lacking. Possibly, in some cases, household expenses could be estimated on the basis of data from similar farms.
- b. Compile data from lending agencies. In the field of real estate credit, considerable data are available in the Federal Land Banks, state rural credit systems and possibly in some of the private lending agencies as to the outcome of their loans classified by states and counties. Of course, considerable caution is necessary in applying data from other periods to the

¹ George A. Pond and William L. Cavert, "How Long Does it Take to Pay for a Farm Starting with Heavy Debts," this JOURNAL, Vol. XXVI, no. 4, pp. 685-694.

one which we are now entering. However, there is one proposition upon which a limited amount of published data generally agree and which is decidedly important to the borrower. This is the fact that it appears to be much more difficult to pay off a loan for say 60% of either appraised or market value in the relatively poor areas and on the poorer farms than to pay off a loan for 60% of either market or appraised values in the better areas. For example, we have the following based on loans made in a period when the maximum Land Bank loan was 50% of the value of the land plus 20% of the value of the buildings.

Experience of the Federal Land Bank and Other Mortgage Lenders in 30 Counties of Washington, Idaho and Montana on Loans Made, 1917-1932

Experience to December 31, 1944¹

Economic land class	Number of loans	Amount loaned	Percent of number		Loss per \$1,000		
			Paid in full	Acquired	Loaned	Acquired	
1	439	\$ 2,707,900	76%	3%	Gain \$1 ²	Gain \$17 ²	
2	1,426	7,356,900	72	6	Loss 3	Loss 43	
3	4,743	14,122,300	63	12	Loss 28	Loss 165	
4	2,992	6,944,600	52	22	Loss 81	Loss 257	
5	1,813	4,466,300	33	48	Loss 266	Loss 517	

¹ Talk by Orlo H. Maughan, Kansas City, Mo. May 16, 1945, "Net Income Area Maps, A Useful Tool for Farmers and Farmer Credit Cooperatives," mimeo FCA, Kansas City, Mo.

² In land class 1, acquired farms were sold at a small profit but in all other land classes were sold at a loss.

Economic land class 1 includes the areas that customarily provide the largest net income, while land class 5 is the poorest in which loans have been made and are areas in which a large number of farms have been abandoned.

Short term debts: For the purpose of this discussion, all borrowings except those secured by real estate are classified as short term debts. In connection with short term debts, the investigator should remember that a large short term debt, secured by necessary livestock and equipment, especially if combined with a heavy real estate debt, puts a farmer in a perilous position if there is a year or two of low income, especially if accompanied by a decrease in the price of livestock or other major items included in the collateral for

the loan. The perils of such a situation are indicated if one assembles for several farms over a period of years, the margin available for debt service (cash receipts less cash expenditures for operations and household expenses).

The wide year to year variation in the amount available for debt service is illustrated by the following average figures for a group of southeast Minnesota farms cooperating with the University of Minnesota:

Year	No. of farms	Cash receipts over business expenses except interest and income taxes	Household expenses	Available for debt service, investment and income tax ¹
1932	143	\$1,085	\$ 604	\$ 481
1933	108	1,426	575	851
1934	120	2,165	687	1,478
1935	150	2,014	906	1,108
1936	152	2,716	904	1,812
1937	166	2,472	1,015	1,457
1938	122	2,334	970	1,364
1939	154	1,853	936	917
1940	148	1,962	1,141	821
1941	197	2,869	1,282	1,587
1942	177	4,425	1,444	2,981
1943	177	4,604	1,385	2,219
1944	161	4,709	1,377	3,332

¹ Calculated from mimeographed annual reports of the Southeastern Minnesota Farm Management Service, 96 and 151. Sixty-five percent of the cooperators kept records of household expenses. It was assumed that the average household expenses of the whole group were the same as in the case of those who kept a record of household expenses.

The year to year variations for individual farms would be much wider than is the case in the foregoing data for a large group.

Suppose this average farmer in 1939 had a heavy real estate mortgage plus \$2,500 of short term debt. If his short term creditor had asked him to reduce the principal by \$800 in 1939, he would have needed for short term debt service including interest on the \$2,500 at 6%, a total of \$950, and the amount available was only \$917 so he would have lacked \$33 of having anything for service of a long term debt. The situation would have been even worse in 1940. In this connection, it should be remembered that a short term creditor is quite likely to insist on reductions in the debt when there is a decline either in the value of the collateral or a decline in income or as is most common, a decline in both at the

same time. An analysis of typical cases by research men would do much to further the prudent use of short term debt. In connection with the household expenses, it may be argued that the expenditures would have been somewhat less if the operators had had heavy debts. Possibly, this is true, but in these cases, it is believed that in view of community standards, little reduction would have been effected. Again this problem of the amount that may be prudently borrowed is one that affects the security of the investment and the type of financing more than the actual capital requirements, narrowly interpreted.

Problem 5: Buying a well improved farm vs. a rundown farm: The ordinary approach to a problem of this type is that of listing all the improvements needed on the rundown farm and their cost. The cost plus the improvements is then compared with the price of the well improved farm. However, this approach usually grossly underestimates the loss of income during the period that one is waiting to get the farm in condition. It also frequently neglects the highly important consideration that if one places a real estate mortgage for all that he can get at time of purchase, any further investment for all practical purposes must be derived from income. Income from a rundown farm is likely to be low, so little progress is made in getting the improvements. Frequently, also, the cost of the improvements is underestimated.

A large amount of grief for the on-coming generations could be saved if data could be assembled for representative areas in each part of the United States as to the relative debt-paying ability of good, medium and poor farms. As was previously mentioned, some data along these lines have already been assembled but most of it has had only mimeograph publication.

Problem 6: What will be the effect of technical changes just now being introduced on the investment in a particular situation? The conclusions based on past experience need interpretation as to the effect of changing technology and other factors in accelerating or retarding the trends that have prevailed in the recent past. For example, what is the probable long run influence of each of the following in increasing or decreasing the advantage of the good areas compared with the poor areas?

- a. Cheap fertilizers and improved technique in applying them. The answer needs to be in terms of particular areas.

- b. The general use of soil conservation techniques in a given area such as strip cropping, contour farming, etc.
- c. The general introduction of electricity.
- d. The introduction of new hay making and curing methods that require more investment and give a better product.
- e. The bulldozer as an aid in land clearing, drainage and leveling.
- f. The effect of rapid milking machine technique. Is it likely to put the farmer in the cut-over and other areas who milks 6 to 10 cows by hand at an increasing disadvantage?

Studies along the foregoing lines offer a good opportunity for economists to collaborate with specialists in other fields.

Problem 7: How about renting? In many of the areas of relatively high land prices, a preliminary review of the situation will indicate that the studies should center around the opportunity to start as a tenant. This would indicate in many cases a review and bringing up to date of past studies as to the merits of different types of leases for particular situations, the amount of capital required by the tenant and the kind of long run opportunity that a tenant farmer has. A feature of such a study might be an inquiry in a given region as to how the successful farmers of today got their start. Several states have made or are making studies of suitable arrangements between father and son, looking toward the assumption of increased responsibilities by the son and a gradual reduction in responsibilities of the father. Further studies along these lines may be in order.

Problem 8: Are farm incomes and prices of farm real estate, live-stock and machinery over a period of years likely to be stable, higher or lower? This is obviously a question that is tremendously important to the future of the beginner who is assuming long term debts. Again, it is one that is related to the security of the investment rather than to actual capital requirements at the moment. Also, it is one to which no amount of research will give an answer that is highly dependable. Considering the limited resources of many agricultural colleges, perhaps, only a few of the better financed institutions should attempt large scale projects in this field. However, all of the land grant colleges have an obligation to assemble, summarize and interpret in popular form the thinking of those specialists in the field who are regarded as most competent.

RESEARCH DEVELOPMENTS IN COOPERATIVE MARKETING*

HAROLD HEDGES
Farm Credit Administration

RESEARCH in the field of cooperative marketing has made up a substantial part of the total marketing research relating to farm commodities carried on since the turn of the century. In the eyes of some students of research, it has received undue attention, quite out of proportion to the importance of cooperatives in the farm marketing field. No doubt it is open to the same criticism leveled at much of the marketing research which has been done, namely, over-emphasis on the descriptive approach as contrasted with the problem approach.¹ And from the standpoint of functional analysis, it undoubtedly is true that main attention has been directed to research relating to that phase of marketing between farmer and first processor since that is the field in which cooperatives have been most active. It might be added that this is much less true today than in the earlier days of research.

The discussion which follows will not be confined strictly to research in cooperative marketing but will also include that in cooperative purchasing. One reason for so doing is that a recent survey—to be cited later—which provides much of the basic information for this paper made no differentiation between research in cooperative marketing and that in cooperative purchasing. Then, too, it is well to recognize that perhaps as many as half of the farmer cooperatives which engage in marketing or purchasing are operating in both fields of activity. Hence, it is difficult to segregate one from the other in any analysis of problems of cooperatives.

Reference has been made to a survey which may shed some light on recent developments in research in cooperative marketing and purchasing. In early 1945, the American Institute of Cooperation was reactivated with the broad purpose of improving public understanding of cooperative principles and practices. One step taken toward this end was the selection of a Committee on Research. The assignment given this Committee was not one of carrying on research in agricultural cooperation but rather of determining the

* A paper presented at the annual meeting of the American Farm Economic Association, Chicago, December 27, 1945.

¹ See F. L. Thomsen, "A Critical Examination of Marketing Research," this JOURNAL, November 1945, pp. 947-962.

status of research in this field and of encouraging further research by public agencies and research departments of cooperative associations. With this purpose in mind, two questionnaires were circulated—one to public research agencies (mainly state agricultural colleges) and another to those larger cooperatives which might engage in research activities.

The American Institute of Cooperation has permitted me to draw on survey results (which are as yet only in preliminary form) to provide more concrete information on recent developments in cooperative research. No doubt a more complete and accurate analysis of these survey data will be made available in published form at some future date.

Considering first the survey of public research agencies, completed questionnaires have been returned by 44 State colleges to date. These 44 institutions listed 97 studies relating to some phase of agricultural cooperation which have been completed since 1939. Eleven of these agencies reported no such projects whereas 15 listed 3 or more projects each. A screening of the 97 studies eliminated a number which were of doubtful research worth, leaving a total of 75 which were quite definitely research in character. Results of 52 of the 75 projects have appeared in bulletin or circular form, whereas 23 have been reported in news or journal articles or remain in manuscript form.

What about the nature of these studies conducted by the State colleges since 1939? No very accurate classification can be made on the basis of project titles, but a rough tabulation was attempted. Nearly a half of the 75 listed projects appeared to be historical or descriptive in character, while a third involved business or economic analyses of cooperatives. Most of the remaining projects related to legal or organizational aspects, or involved farmer attitudes or membership relations.

Another question asked in the survey of state colleges related to other studies—not primarily cooperative, but having a bearing on problems of cooperatives—which had been completed since 1939. Here 41 of the 44 reporting colleges listed a total of 147 studies. Thus there were approximately 2 studies of this more general type for each one relating specifically to cooperatives.

To some this substantial number of specific cooperative studies—about 1 out of 3—may seem to be out of proportion to the place of cooperatives in the marketing picture. The Farm Credit Ad-

ministration has estimated that about 18 percent of the products marketed by farmers are handled at some point along the route to market by producer cooperatives. Considered in terms of all steps involved in the marketing process, there are only a few specialty products for which cooperatives perform the major share of these necessary functions between producer and retailer. Nevertheless, producer participation—through cooperatives—in the marketing process, even though small when measured against over-all volume totals, does have a wholesome influence in the direction of increasing efficiency.

Quite aside from this attempt at justification for the interest which public research agencies have displayed in cooperative marketing, there is the practical problem of availability of data. Generally speaking, cooperatives have been less averse than private profit concerns to opening up their records for study and analysis. Hence they have proved a very fertile source of information for research attention.

The Institute survey offers evidence that state colleges have been forced to curtail research activity in agricultural cooperation as a result of war developments. Two questions were asked regarding work now under way and that contemplated in the near future. Twenty-nine of the 44 reporting institutions listed 43 projects now under way. In the matter of contemplated work, 16 of the 44 colleges reported no such work planned for the near future, but the 28 remaining colleges listed 38 proposed projects. The major reasons given for restricted activity in this research field were very much to the point—1. limited staff, and 2. limited funds. Seven institutions reported the relative unimportance of cooperatives as a factor in their state.

This sketchy report on the Institute survey of cooperative research summarizes the past and current activities in such research at the state level. I might add that questionnaires returned by research agencies in the states other than agricultural colleges revealed very little attention being given to research involving cooperatives. At the federal level most of the research carried on in the field of cooperative marketing and purchasing is that done by the Cooperative Research and Service Division of the Farm Credit Administration. This Division received specific authority for its activities with the passage of the Cooperative Marketing Act of 1926. It is charged with the responsibility of rendering research, service and educational assistance to farmer cooperatives.

At any given time, the Division staff has in progress from 35 to 45 research projects which may vary in duration from a few weeks to several years. In addition an equivalent number of service projects usually are in progress. It is difficult of course to differentiate between research and service projects. Perhaps the latter can best be described as those involving problems which can be met by drawing on past research results and the training and experience of staff members to provide the answers. In contrast, the research projects involve systematic search for information, analysis of data, and other usual research procedures.

In order to provide information on federal research comparable to that already given for state colleges, the following figures will give some idea of the extent of research work carried on since 1939. In the period of 6 years the Cooperative Research and Service Division has issued 12 bulletins, 13 circulars, 127 miscellaneous and special reports and 32 confidential reports presenting results of work which might be classed as of research character. I might add that during the war period, it has been necessary to curtail research activities in considerable degree while giving attention to service work closely related to the war effort.

Now a word about current research of the Cooperative Research and Service Division. As of October 1, there were 35 projects under way. The big majority of these would be classified as dealing with problems rather than being descriptive in nature. Occasionally the problem being attacked concerns only a single cooperative, but much more often it is of specific interest to a group of associations. Perhaps a listing of a few titles will give a hint of the nature of the projects: cooperative accounting terminology; costs of freezing fruits and vegetables; possibilities of centralized slaughtering and processing for cooperative locker plants; analysis of operating problems of hybrid seed corn cooperatives; group insurance plans for cooperative employees.

This review of recent developments in cooperative research would be incomplete without mention of two significant projects instituted by the Brookings Institution within the past 12 months. Recognizing the paucity of material and information on the subject of the economic nature of the cooperative form of business organization, the Institution has joined with Iowa State College in a study of this subject, Mr. Frank Robotka being mainly responsible. The second project which Brookings Institution has encouraged is an examination of developments in the field of co-

operative purchasing. Dr. J. G. Knapp of the Farm Credit Administration has been on leave of absence from the latter agency in order to carry on this project.

Still another type of research in the field of cooperative marketing is that carried on by the cooperatives themselves. As they have gained in business volume and financial strength, they have expanded their activities in this direction. Much of this research is concerned with the technological aspects of marketing—trying out new and advanced processes, finding improved types of packages, and like problems. The physical scientist has a real part to play in such research, but the economist has an equally important place because of cost and price angles, effect on consumer acceptance and similar economic aspects. Admittedly this research is not distinctly cooperative in nature, being identical with that in which private profit organizations are engaged. One interesting idea might be injected at this point. Any gains realized from improved techniques are likely to be reflected back to the producer more promptly by a cooperative than by a profit-seeking concern.

In the cooperative purchasing field a number of the regional cooperatives have been and are quite active in the research field. A recent study conducted by Dr. M. A. Abrahamsen for the Farm Credit Administration and reported briefly in a recent issue of the *JOURNAL OF FARM ECONOMICS* has given light on the extent of such activity. The full report of this study should be in published form very shortly. Time will permit only mere mention of the "value-in-use" concept back of the research activities of the purchasing associations. I shall leave it to an economic theorist to determine what the end results may be under this concept as contrasted with the "profit" motive as the force encouraging research.

Up to this point, this paper has attempted to present information on the status of research in the field of agricultural cooperation carried on during the past 5 years and that now in progress. Without a careful appraisal of research results as they are reported in publications, an evaluation is impossible. Hence it is not attempted. We are indebted to Dr. F. L. Thomsen for an article in the November issue of the *JOURNAL OF FARM ECONOMICS* presenting a critical examination of the broader field of agricultural marketing research. In my opinion, his conclusions on the descriptive vs. the problem approach would hold in the more restricted field of cooperative marketing but in somewhat less degree.

There is still another part of the survey being conducted by the American Institute of Cooperation which is significant as it concerns the subject of this paper. It may give a hint on the future course of research in agricultural cooperation in that the replies reflect the views of research workers in the direction future research should take. This question was asked: What do you consider are the major gaps in information on the principles, practices or economic role of agricultural cooperation which might be filled by future research? A surprising number of those replying called attention to the need for studies of the economic role of cooperation in our modern society using such expressions as "the social benefits of cooperatives," "the economic nature of the cooperative form of business," "the philosophies of consumer and agricultural producer cooperatives," "testing sound principles of cooperative organization," and "the social and economic resistances to the cooperative form of organization."

The study, previously cited, which Professor Frank Robotka of Iowa State College has under way, with assistance from the Brookings Institution, apparently is of the type for which definite need has been expressed. In view of this interest evinced by agricultural economists, it is to be hoped that other research workers will give attention to this "gap" in information on the subject of agricultural cooperation. I am sure that Dr. E. G. Nourse and others who have explored this field would be the last to feel that further research would be futile.

I have heard the view expressed by a number of agricultural economists that the economic role of cooperatives still receives much less attention in the classroom than is warranted by its economic significance. This may be due in large part to a dearth of usable material which is available to teachers of economics and business organization. Judging from survey comments, a number of economists are aware of the need for more information backed by sound research. Perhaps this awareness of a need will result in more intensive study of the economics of cooperation.

A second major gap, as revealed by the Institute survey, is in the "efficiency of operation" category. Specific problems facing cooperatives were itemized as needing attention. Still another gap pointed out is that of research in the field of public and membership relations.

In this matter of prospective research in the cooperative field,

a comment made by several of the college staff members in replying to the Institute questionnaire is worthy of special mention. This comment was in effect that the research should be more objective and less emotional in nature. Of course the point could be made that a study could scarcely be considered of research character unless it was quite objective in nature. Quite aside from this technical angle, the comment emphasizes the need for sound research procedures in any studies made in the cooperative field.

For the future, it can be forecast with reasonable assurance that some further expansion of cooperative research is likely in the years just ahead. One of the limiting factors already cited, namely, shortage of research personnel, should be relieved in part as workers return from military service. In the matter of available funds, I shall venture no guess but express the hope that some improvement will occur. There is assurance of a plentitude of problems awaiting attention. Effective coordination of the research efforts of the various agencies in the field is a continuing challenge to administrators as well as to the workers themselves if these efforts are to be most productive of results which will prove useful to both farmers and the public generally.

DISCUSSION OF PAPERS RESEARCH DEVELOPMENTS

WILLIAM G. MURRAY

Iowa State College

With the end of the war, research workers are facing more than a brave new world; whether they like it or not, they are being placed in the center of the stage by an anxious world citizenry fearful of what will develop out of atomic energy and the results of future scientific research. Signs indicate that research of all kinds will be encouraged as never before. Consequently, it is especially fitting to have at this time this series of three papers on research developments in agricultural economics.

In these three papers it is possible, I believe, to catch a glimpse of some new research trends. Our new research models may not look much different than those in vogue before the war, but they do exhibit some changes in objectives, techniques and procedures which may be the first indication of a new era in agricultural economic research. It may well be that research in this field will receive a stimulus in the years immediately ahead similar to that which occurred in the twenties after World War I. At this time, therefore, we need to be alert to what may happen and to what we can do to improve research in our area.

A striking development emphasized in varying degrees in all three papers is research by regional groups and private agencies. F. F. Hill discussed at length in the closing section of his paper the extensive program in agricultural finance research which is being undertaken by the National Bureau of Economic Research as part of its activities in the finance field. W. L. Cavert referred to a regional study on minimum financial requirements to start farming, a study by the North Central Land Tenure Committee. Harold Hedges stressed the program of the American Institute of Cooperation to promote research in cooperation. And he also mentioned the support which the Brookings Institution is giving to special studies in cooperation by Robotka and Knapp.

One of the outstanding advantages of research by private agencies and regional groups is breadth and perspective in the studies made. The Brookings studies of the A.A.A. program, the New England Research Council's milk studies, and the North Central Committee's study of land tenure are good examples. And, there are others. What happens apparently is that a certain amount of intellectual hybrid vigor is produced when two or more inbred professors who have been isolated for some time are brought together to carry on a regional or national study.

There are other advantages. Hill in his paper deplores the duplication of research effort among the states. This is largely avoided in regional research, one study and one publication serving the needs of all the cooperating states. Then Cavert points out in his paper that an important task is the evaluation of existing data. Research results may be available in a number of states but no effort has been made to bring them together, analyze them, and present the conclusions for the area. Hedges, in discussing the Brookings studies of cooperation suggests still another advantage, the ability of the private research agency to obtain the services of individuals to make special studies under their sponsorship.

Unfortunately research by regional groups and private agencies has its drawbacks. Regional groups in particular are liable to get into serious difficulties. In almost all cases the trouble is too much conferring, discussing, arguing, compromising, and redrafting and too little original research. As some of the private research agencies have learned, it is almost always imperative that some one individual be given the responsibility, time and resources to do the research. If there is a group or committee, its function is to review and criticize not to write the bulletin or report.

Here is an excellent opportunity for a profitable division of labor. Outstanding individual research workers with originality and imagination should be exempted from endless conferences, and instead be given free and unrestricted time to devote to research projects of their own. On the other hand, research workers of a critical and gregarious nature should be allowed to fill their schedule with regional conferences at which they can tear apart and put together again the research results produced by their more original but less gregarious colleagues.

Regional groups and private research agencies may also have a special function to perform in defining problems and in getting individual research

started. Hill referred to the extensive exploratory discussions in agricultural finance sponsored by the National Bureau of Economic Research. These discussions served a useful purpose in setting forth the significant problems requiring research. But this is about as far as a group or committee can go without running into marginal returns. At this point the individual research worker should take over, and in taking over he should be endowed with freedom of action, time and resources so he can perform at his best. Later when a first or second draft of the manuscript is ready, the group or regional committee can start functioning again.

Another development forecast in these papers is more analysis and theory and less description. Both Hedges and Hill comment approvingly of F. L. Thomsen's article in the November issue of the *JOURNAL OF FARM ECONOMICS*. Cavert mentions the need for analysis of data. And Hedges states that the economists who replied to the American Institute of Cooperation questionnaire expressed their desire to see more research in the theoretical aspects of cooperation and less in the descriptive phases. If we add up all this evidence, the conclusion is inescapable that theory and analysis are going to be the popular research projects and description is going to be relegated to an unimportant position.

Most of us agree, I think, with those who say that description has been overworked. It often happens, however, that the analytical and theoretical study which is started with high hopes and a good budget ends up in a fog of descriptive data. It takes so much time to get the data, the data are so intriguing, and the opportunity to get additional data is so tempting, that many analytical studies never get by the descriptive stage. Then there is also the justification for description, that it is needed as the first step in analysis.

This all boils down to the statement that there is a widespread desire among research workers to emphasize fundamental rather than descriptive research but that it will take careful planning and well-trained personnel to accomplish this objective.

Those who want more analysis and less description have splendid opportunities to exercise their talents. Rather than start new studies, they can work some of the available gold mines of existing data. The accumulated data in the files of the Farm Security Administration and the Farm Credit Administration would probably yield handsome dividends if they were subjected to thorough-going analysis. In the process, however, the research workers would have to guard against a tendency to show merely a descriptive record of farm finance. What is needed and what is possible is a series of critical evaluations of farm finance experience of the F.S.A. and F.C.A. An excellent example of what might be done is the book by Butz entitled "Production Credit System For Farmers," a critical study sponsored by the Brookings Institution.

A third and final development likely to occur in agricultural economics research is more coordination and cooperation with researchers in allied economic and technical fields. Hill suggested the need for this when he pictured the farm finance specialist climbing over the fence into farm manage-

ment and land economics. It seems to me this idea could be extended advantageously. The farm finance specialist should not only get over into farm management, but he should also get over the fence into general economics, into statistics and into some of the related technical fields such as soils, crops, animal husbandry and agricultural engineering. Some of the most promising results of current agricultural economic research are coming from the studies made by agricultural economists who are drawing liberally from general economics, money and banking, statistics, and technical agriculture. In fact, the trend in this direction plus the other developments mentioned, may add materially to the effectiveness and prestige of agricultural economic research in the years ahead. And as a consequence the research workers will find themselves in a much stronger position to render outstanding service to the nation.

RESEARCH AND EDUCATIONAL PROGRAMS IN THE MARKETING OF MILK AND DAIRY PRODUCTS*

ALAN MACLEOD†

New England Research Council and Bureau of Agricultural Economics

THERE are several alternative approaches to the subject assigned me. One approach, and an interesting one if well done, would be to review comprehensively the research and educational work that has been, or is being, done in this field and report, probably in statistical fashion, upon the survey. Another alternative would be to describe in some detail the particular research and educational programs with which I have been most closely associated in recent years.

Either of these alternatives would have had the advantage, from my point of view, of making it possible for me to deal exclusively with factual material, the accuracy of which would not be open to argument. In discarding these approaches, therefore, I do so regretfully, realizing that only incidentally am I going to be presenting factual material, and that the more important parts of my paper may be of a more controversial nature. In brief, I plan to present my own personal concept of what a good research program and a good educational program in the field of dairy marketing should comprise.

Research that is worth its salt should seek to develop relationships from which it is possible to generalize. If we can discover, for example, why and how and to what extent a change in the density of milk deliveries is associated with a change in route mileage, we have found something that is useful in solving milk delivery problems not only in the markets used to develop this particular relationship, but in all other markets where similar delivery practices and densities prevail. Worthwhile research does not involve the collection of data for data's sake. We should guard against becoming census takers—content to accumulate facts, compile tables, draw charts, compute averages and publish reams of the product. Do not get the idea from my last remarks that I am decrying the collection of data—far from it. Where data are necessary for a par-

* A paper presented at the annual meeting of the American Farm Economic Association, Chicago, December 27, 1945.

† The opinions expressed here are my own and do not necessarily represent those of the New England Research Council or the Bureau of Agricultural Economics.

ticular purpose such as supplying the answer to a certain problem, of course we must collect them—if they are not already available. But a good deal of our data collection is not of that kind: it springs from the idea that if we just collect all the so-called facts we can think of about our subject, we can by putting them through convenient tabulations, have results of great research value. This concept of research is, I believe, misguided. Fortunately it is not widely held.

Here let me quote from a paper by F. L. Thomsen who after examining marketing research says: "No collection of miscellaneous facts or organization of descriptions will substitute for the placing of primary emphasis on problems, the exercise of real imagination in formulating hypothetical solutions, and the use of rigorous statistical procedures in verifying our *a priori* conclusions. The mere enumerator will never make important contributions to marketing research. He will simply wind up with a lot of facts and no idea of what to do with them."¹

In this same connection, the comments of J. A. Hodges, though made about farm management research, are applicable: "... In many cases projects have been started without a proper understanding of the questions they were designed to answer. Neither the universe nor objectives were defined with enough care. Another shortcoming was the use of data obtained for other purposes or merely obtained and then attempt made to use it to answer specific questions to which it was never adapted."² Instead of this kind of research, I think the good researcher focuses his attention upon whatever problem or combination of problems he is investigating, and thinks about it to the point where he knows both the kind of factual data needed in order to find the answer to his problem and the form in which that answer ought to be stated in order to be most useful.

The need for making hypotheses has been well expressed by L. A. Salter who said, "... Social difficulties present to us a troublesome situation for resolution. Our first action as scientists must be to organize it as a problem and then to formulate a possible method of resolution as a beginning hypothesis. In terms of

¹ F. L. Thomsen, "A Critical Examination of Marketing Research," this JOURNAL, Vol. XXVII, No. 4, November, 1945.

² J. A. Hodges, "Forty Years of Farm Management Research," this JOURNAL, Vol. XXIV, No. 2, May, 1942.

day-to-day practice, our slighting of these steps is one of our most disastrous shortcomings, for we often move into advanced research operations with no more formulation of the problem than to study, for instance, land utilization in such and such a county. From there on, our activities are largely routine. If we work on a problem stated in such inadequate terms, our procedures will be those of blind-flying. . . . The lack of directing concepts is perhaps a main reason why many data in our research reports appear almost superfluous, and why some studies appear to be analyses of a series of tables rather than of a series of revealing questions."³

At this point, I wish to refer by way of illustration, to the attack made by members of the New England Research Council on problems of milk marketing. Obviously there are other procedures equally well adapted to the carrying on of research in this field; I choose the one we used simply because I am most familiar with it. Our program began with the work of a small committee. Members of this dairy committee did a lot of thinking about the type of research program that was needed and then got together to exchange ideas. After this committee had spent a good deal of time on the problem and had crystallized its ideas, it secured the services of a representative of the Bureau of Agricultural Economics to put the program together. The introductory statement to this program applies, I think, not only to research in marketing milk, but to research in marketing all products and will, therefore, bear repeating:

"This program of research as tentatively outlined contemplates thorough study of the efficiency with which New England's milk supply is marketed. Marketing is considered to be the whole process by which milk and its products are transferred from the farms on which they are produced to consumers. In the course of this process prices are established, not only at the city receiving points, but also at the farms, at the consumer's doorstep, and at various points in between. The manner in which each part of the marketing mechanism operates affects prices at some point, oftentimes at all points, in the process. Inefficiency on the part of agencies supplying any of the physical services involved in marketing increases costs and correspondingly increases charges for those services. As

³ L. A. Salter, Jr., "The Content of Land Economics and Research Methods Adapted to Its Needs," this JOURNAL, Vol. XXIV, No. 1, February, 1942.

a consequence returns to producers are decreased and/or costs to consumers are increased.

"But inefficiency in marketing need not have its origin in physical operations. The pricing mechanism of the market may be quite inefficient in establishing prices which accurately reflect the forces of supply and demand, either for milk or for the services of marketing. Such inefficiency may cause prices for the market as a whole to be too high or too low over considerable periods of time, with corresponding effects upon both production and consumption. On the other hand, it may result in an inequitable distribution of returns among producers in different localities, thereby causing uneconomical shifts of production. Similarly, prices to different consumers may not reflect accurately the differences in the qualities of products or services which they receive. In all cases, however, the efficiency of marketing has an ultimate bearing upon price, and the analysis of any proposal for market reorganization is not completed until its effects upon price have been ascertained with a reasonable degree of accuracy."⁴

How well has this attack worked and what accomplishments have we to show? It is of course impossible for anyone closely associated with a project to view it objectively. Therefore, I attempt no evaluation. I would like to refer to some of the studies conducted as a part of the program in order to illustrate some types of research that I feel are desirable. Needless to say, where as much freedom is given in choosing and conducting projects as has been true of our program, methods used and publications issued have varied widely. But in general, it is possible to report that sufficient study has been made in the fields of milk assembly and distribution to indicate pretty clearly the way in which economic factors operate, the features of efficient and economic systems of assembly and distribution, and the extent of the savings that could be made if conditions of optimum efficiency were attained. In other words, we have not only studied what now exists or what has existed in some past period, but have taken a further step or two and have outlined the features of an ideal system, indicated the changes that would have to be made in our present systems in order to reach that ideal system, and have tried to indicate the major steps that

⁴ Harold B. Rowe, *A Program of Research in Milk Marketing for New England*, Bureau of Agricultural Economics, U. S. Department of Agriculture.

would need to be taken if the more efficient system were to be attained and have pointed out some of the disadvantages involved.

We have, for example, analyzed the extent to which excess truck capacity, duplication of routes, and cross-hauling were present in our milk assembly operations. But we have not stopped there. We have gone on to describe the features of an efficient system of hauling and to indicate some of the adjustments that would be necessary to achieve this efficiency, together with some of the sacrifices involved. Here we draw the line. Whether or not any program of route reorganization is put into operation is not for economists alone to decide. We can indicate the potential savings, suggest the manner in which they can be realized, and point out some of the economic and other considerations that should be weighed in arriving at a decision, but that is as far as we can go and still remain research workers.

In our studies of milk assembly we have not contented ourselves with a consideration of physical factors, such as the miles traveled, the truck capacities used, the man-hours worked, but have investigated hauling charges with the object of determining not only the present levels of charges but also the principles of rate formation and the manner in which present charges conform to those that might be expected under conditions of perfect competition. In one of the studies of milk assembly the situation was summed up as follows:

"Any realistic approach must recognize that in milk assembly at the present time, elements of monopoly are too numerous to permit the free working of competitive forces; yet monopoly has not proceeded to the point at which it can introduce many operating efficiencies. Public control of prices has adopted (with only minor modification) price levels and differentials previously present in the market, and has not succeeded in bringing about economies of assembly. The operation of competitive forces has been overshadowed by those other two sets of forces and the result has been a marketing system sadly lacking in efficiency."⁵

I have spent this time on a single phase of a program in order to illustrate concretely the type of research that seeks not merely to describe (statistically or otherwise) but to discover relationships

⁵ Alan MacLeod, W. E. Carpenter, and J. A., Hitchcock, *Possible Savings in the Assembly of Milk in Northern Vermont*, Bureau of Agricultural Economics. U. S. Department of Agriculture.

and through these to contribute to: (1) an understanding of the economic and institutional forces affecting the level of prices of milk and milk products; (2) an understanding of the interrelationships between these forces in the various markets and the interrelationship of class prices in the various markets; (3) a more clear-cut conception of the place, purposes, limitations, and probable results of public regulation in this field; and (4) an understanding of, and detailed empirical knowledge concerning, the nature of the problem involved in the country assembly, the operation of country plants, plant to market transportation, and city distribution of milk.

Because economic data are constantly changing, there often appears to be need for returning to a phase of marketing and repeating a study "to bring our data up to date." The temptation to ensure oneself continuous employment without the need for grappling with new problems is sometimes strong and we must guard against it. To be sure, the system of truck routes hauling milk and the trucks hauling that milk are changing continuously and a detailed survey made today may not give a completely accurate picture of operations tomorrow. But if, out of that detailed survey, we can arrive at some general conclusions that remain valid for a number of years, then we do not need to worry about our specific route map being out of date in a few months. Until there are substantial changes in the physical techniques of handling milk that alter our basic relationships, the outlines of an efficient system of assembly are as applicable today as they were the day they were first made. Being in both physical and monetary terms, they can take care of changing price relationships without any great trouble. Similarly, an analysis of the effects of monopoly elements on the structure of hauling rates does not need to be repeated at frequent intervals in order to keep it up to date.

Another type of research resembling in many respects that which I have been discussing is best illustrated by an analysis of country milk plant operations made in 1942. This is the use of the concept of economies of scale which has been described as follows: "... Briefly, the economy of scale curve tells us the levels of costs that may be expected from the operations of plants of various sizes, *when operations are organized as efficiently as possible under the given conditions*. More technically, the economy of scale curve represents the locus of the lowest average costs that may be

achieved with variations in the scale of operation. As the scale is increased, economies will usually be present and will lead to reduced costs, but these will eventually be replaced by dis-economies and increasing unit costs."⁶

The study of country milk plants uses an hypothesis based upon the concept of economies of scale. It illustrates the value of approaching a research project with a specific hypothesis in mind, assembling the data needed to prove, disprove, or modify this hypothesis, and finally arriving at an end product that clearly shows the effect upon milk assembly costs of changes in the size of plants. It goes far beyond a simple survey or inventory of milk plants together with their actual operating costs for a particular year and volume. Again, let me repeat, these data are useful and even necessary in order to evaluate the efficiency of the present assembly system and the manner in which it differs from an ideal one, but they are not an end in themselves. Both the budgeting or synthetic approach and the survey approach are often necessary, but the purpose towards which the study is directed should always govern both the method selected and the way in which that method is used.

In somewhat more technical terms, a research problem has been said to exist; "... when a question of cause and effect, of relationship, of verification, of application, or of generalization is involved, and is designed to test validity of a supposition, or of a proposition. Such a proposition or supposition is called an hypothesis, and may be likened to a theorem which is believed to be true and generally applicable but which cannot be accepted until it has been subjected to adequate proof. . . . In general, an hypothesis is a statement of a tentative theory or supposition as to the existence of some cause-effect relationship adopted to serve provisionally as a guide to investigation leading to its final verification, or establishment, as a principle or law. . . . Specifically, as used in research, an hypothesis is the most likely explanation of the relationship existing between a given fact and other facts or conditions which may be observed. Ultimately, therefore, *an hypothesis is a tentative statement of a likely relationship between phenomena which, if verified under specific conditions, may be set forth as a principle or law ap-*

⁶ R. G. Bressler, Jr., "Research Determination of Economies of Scale," this JOURNAL, Vol. XXVII, No. 3, August, 1945.

plicable to any situation under which the specified conditions are present.

"All social science research must begin with an hypothesis about which revolve all the manipulations and analyses of the data believed to contain the verification sought."⁷

Still another illustration of the type of project that I think valuable can be found in the Connecticut studies of milk delivery. Here I tread on ground that has recently been well trampled by contributors to the JOURNAL of this association. Apart from the merits of these specific studies, I find myself concerned with the broader issues raised by Mr. Steck.⁸ His review raises the whole question of what "the most fruitful fields for meaningful research in marketing are" and by implication casts serious doubts upon the value of much of the research work in marketing that has been conducted in recent years and that is now underway. After dismissing studies of the type made in Connecticut, where the main emphasis has been placed upon the consideration of measures for reorganizing the handling and distribution of milk to eliminate inefficiency and duplication, as contributing little towards an improvement of the milk marketing system, Mr. Steck apparently favors a rather limited type of research. He says in this connection: "One approach in the creation of conditions favorable to competition should be the avoidance of methods in the marketing of milk by farmers which will handicap small firms in competing with the larger ones. An illustration of other types of policies to be avoided is the practice, which is sometimes encountered, of fixing the same price for store milk as for milk delivered to homes, or the establishment of a higher price for milk sold in paper containers than for milk sold in glass bottles. It is in the search and development of these and similar lines of approach that economists and research workers may find the most fruitful fields for meaningful results, and not in the conduct of investigations that might as well be left to engineers, cost accountants, or efficiency experts."

This view, if I interpret it correctly, would limit economists to a strictly defined field in which they would leave to others the in-

⁷ Otis Durant Duncan, "Hypotheses in Land Tenure Research," Oklahoma Agricultural and Mechanical College, this JOURNAL, Vol. XXV, No. 4, November, 1943.

⁸ Leon Steck, "Research in Milk Marketing, A Review," this JOURNAL, Vol. XXVII, No. 2, May, 1945.

vestigation of physical relationships. This concept would rule out much of the research work now being conducted in agricultural economics such as the studies of produce market facilities, and indeed of all agricultural processing and transportation facilities insofar as the physical factors were involved. I would disagree with this concept on two grounds: First, I have a profound distrust of efforts to "departmentalize" research, whether they be in the field of economics or in any other branch of science. A writer in *Science* has pointed to some of the dangers of erecting boundaries between the sciences: "When the Roman Republic passed its apogee near the beginning of our era, one symptom of its condition was the decline of learning. The sciences were marked out by formal boundaries; but, as Macaulay notes, there was little cultivation within the walls and no flowers and no fruit. In our times the social sciences are similarly set off from one another, and one looks nearly in vain for flowers and fruit in spite of a rather assiduous cultivation. . . . Economics, anthropology and psychology, which should contribute to one another, pursue their separate ways, without interrelations, without mutual understanding and without purpose."⁹

My second objection to restricting narrowly the field of research in milk marketing stems from the fact that there are instances, only too often, when the data on physical relationships that the economist must use are either not available or are not in the form in which the economist needs them.

For these reasons, I think that the economist may often find it necessary to work in close collaboration with workers in other fields and sometimes may have to undertake, on his own, investigations that get him into these other fields. When he does so it is usually not from choice, but from necessity. One research worker in marketing has said in this connection: ". . . most important marketing problems, such as the refrigerator car problem, have many elements in addition to the economic. Someone must integrate these interests, and this seems to be a job which the marketing economist can do as well as anyone. All such tasks, in any event, call for genuine cooperation among the physical and economic scientists working as a team. The marketing economist should know enough about the technological phases of the problem to be able to tie together

⁹ Stanley D. Dodge, "Education for the Social Science Student," *Science*, Vol. 101, No. 2626, April 27, 1945.

the several elements of the problem. Frequently, he will have to obtain this knowledge by contacts with physical scientists after he starts work on a particular project."¹⁰

If we were to eliminate a consideration of all physical factors involved in the assembly, processing and distribution of agricultural commodities (except from the standpoint of describing the marketing system) what would be left? Research of a descriptive nature. This is, of course, comparatively innocuous as long as it is confined to pure description with analysis limited to the arranging of data in appropriate tables. Besides, no annoying questions are asked about the relative degree of efficiency of a particular channel of distribution, and the question of the degree to which monopoly powers are exercised by marketing agencies is never raised. Perhaps the field of price relationships would be left to play around in, as long as no attempt is made, for example, to connect marketing spreads with the physical process of moving the product from farms to processors. We could have a delightful time comparing margins with operating costs and finding that the two were related! We might even be permitted to speculate on what store and paper bottle differentials for milk ought to be. Need I say more? The fields that would be left to us if this concept were accepted, appear to be those that are now occupied by the census taker, the advertising copy writer, and the public opinion poll man. The economist wishing to study problems of significance in the field of milk marketing would find no place.

And finally, before leaving a consideration of research, I might give as a last illustration the objectives that we seek in our current study of milk prices:

- (1) the structure of prices at primary and secondary markets that will allocate supplies economically between markets;
- (2) the price relationships that have prevailed in the past between primary and secondary markets and within different parts of the supply area of certain markets;
- (3) the effect of allowances for transportation, receiving, and processing upon (a) the structure of milk prices in New England, (b) the utilization of milk by handlers, and (c) the relative amounts of Class II milk handled by various markets;

¹⁰ Thomsen, *op. cit.*

- (4) the effects of seasonal variation upon prices received and the price-differentials attributable to differences in seasonality of production;
- (5) the effects of other factors, such as public health regulations, on price differentials between markets.

As I have done earlier, I want again to emphasize the importance of having an over-all objective—a purpose if you like—to the study. In this case we hope to accomplish two things: (1) The price relationships we develop should be useful for determining price policies for the purpose of milk market control; (2) Through the use of prices and transportation costs we should be able to allocate supply areas for milk markets so as to achieve an optimum allocation of resources between markets. We expect to develop one or more patterns of price-interrelationships. The basic assumptions upon which price patterns rest will be clearly shown, and the objectives that would be accomplished by these price relationships would be indicated. Finally, comparisons of existing and of past price interrelationships with these patterns will be made, with a view to indicating desirable objectives for future price policy.

Turning to educational programs, I must plead ignorance of much of the recent experience in this field. It is a large one and includes not only extension programs for producers, consumers, and handlers, resident instruction in colleges, high schools, and public schools, but a host of other less easily definable educational activities. It would be a task even to catalogue them, and like a survey of the research in the field of dairy marketing, will not be attempted here. Instead, somewhat the same procedure will be followed as with research: a description of those ends that a good educational program should accomplish and some illustrations of the type of program that might be expected to do so.

If we take as the objective of a sound educational program in the marketing of dairy products, that it be organized in such a way that it gives a real understanding of the economics of milk marketing, then we can say with little fear of contradiction that we have a long way to go. Not that we have not made a beginning, or that much good work is not now being carried on in this field. But real study is required to understand the economic principles involved in the marketing of dairy products and the way in which they operate. And only rarely is an educational program undertaken that involves continuous study adequate to give this necessary under-

standing. Too often efforts have been made to "simplify" the subject when this was impossible. As a noted author and statesman once said: "To be simple in an unsimple matter is the surest road to confusion." Some extension men have recognized the need for a new approach to this kind of educational work. Among other developments, an extension program in marketing is now proposed objectives of which are to: "(1) create an understanding among farm and urban people of the costs and services rendered in marketing; (2) assist farm people to understand how prices of farm products are determined; and (3) assist in developing and improving marketing methods. . . . The Extension Service should help farmers to understand how prices for farm products are determined. . . . Farmers should be assisted and encouraged to develop marketing systems that will provide the ultimate in efficiency. The goal should be to provide maximum farm returns with reasonable consumer prices."¹¹

Because the usual methods of extension education do not undertake the intensive kind of instruction that is necessary if one is to understand the economic principles involved in milk marketing—as, for example, the pricing system for milk and the factors that affect it—an experimental program is under consideration. This program, which is expected to be tried out in a few localities, would involve a series of meetings with the same group and would use a regular course outline. A few attempts of this kind have been made in the past, some reasonably successful, others complete failures. One difficulty lies in maintaining sufficient interest to keep the group attending the meetings and reading the materials assigned to them.

In this experimental program, the aim will be to show how the economic system works and what the effects of certain changes in physical or monetary factors will be. It will not try to fill dairymen full of statistics about the milk industry, but will concentrate on the essentials needed if one is to participate effectively in policy formation. If educational materials can be related to specific problems that farmers have in mind, in supplying answers to those problems we will be educating farmers at the same time. Again, as in our discussion of research programs, we come back to the

¹¹ *A Preview of Tomorrow's Educational Problems in Agricultural Economics and Rural Sociology*, prepared by a Committee of State and Federal Extension Workers, U. S. Department of Agriculture, September, 1945.

importance of being able to recognize and to state problems clearly. Without this, no amount of factual material, no beautifully drawn charts and no pages of statistical description are worth much. A limitation to the experimental educational approach discussed above is that, even if successful, it will directly affect only a small number of persons. Indirectly, however, the results of having even a small number of well-informed persons may be of great value.

As a general objective for educational programs the Report of the Land-Grant College Committee on Postwar Agricultural Policy warrants consideration when it says: "It is not the function of educators . . . to determine what agricultural policies should be adapted. That is the responsibility of the Nation's citizens. Our task is to supply the essential facts affecting farm policy. . . . It is our hope that men and women on farms and in the cities will . . . reach decisions which will cause Americans, 10, 20, and 50 years hence to say that they reasoned well and acted wisely."

Specifically, an educational program in dairy marketing, should, in my opinion, aim at making people understand the economics of the marketing of dairy products. In these few words is included a great deal. In order to understand the economics of the marketing of dairy products, students should be able to learn how to recognize real problems, how to formulate them and how to deal with them. Once clear-cut questions can be asked, solutions can be sought. As in research, unless we can separate the basic, the fundamental, from the superficial and the descriptive we cannot do a proper job of educating. We are apt to be impressed by the trees and fail to see the forest. By this I mean that the almost unlimited volume of data on production and prices and market facilities and all the other parts of the marketing system often receives our attention while we neglect things that are much more important from the standpoint of understanding the economics of the dairy industry.

In conclusion let me sum up the points that any worth-while program of research or extension in the marketing of milk and dairy products must consider:

- (1) There should be a clear understanding of the problems that are to be investigated.
- (2) A possible method of solution, a hypothesis, should be formulated.

- (3) The data to be collected, or presented, should be determined by the purpose for which they are to be used.
- (4) The research program should seek to develop relationships from which it is possible to generalize.
- (5) Where a problem cuts across the customary boundaries of a science, these boundaries should be disregarded, and not permitted to interfere with development of the program.
- (6) Although detailed data are necessary in conducting a research project or an educational program, they should not be permitted to distract attention from important principles.
- (7) In both research and educational programs, beware of simplification when a complex problem is answerable only in complicated terms.
- (8) Above all, work towards understanding a problem. This applies equally to research programs and educational programs.

Let us aim at gaining an understanding of and insight into the working of the dairy marketing system, and having gained that, instruct others. Only with this knowledge is it possible for us to make intelligent decisions on questions arising in this field.

RESEARCH AND EDUCATIONAL PROGRAMS IN THE MARKETING OF LIVESTOCK*

C. D. PHILLIPS

University of Kentucky

THE cornerstone of any good educational program in regard to the marketing of livestock is laid by a carefully organized research program. Each Experiment Station must not only develop such an individual program but must cooperate frequently on regional and national problems with other states as well as with federal and private institutions. Only by such well-planned research programs is it possible to avoid the trial and error method of improving the livestock marketing system. Any research program designed to include all aspects of livestock marketing must contain a series of systematically developed research projects coordinated throughout the nation. Only studies of a general nature can, at present, be carried beyond the state levels as research programs in livestock marketing in most states have not as yet been developed to the point where results can be coordinated on a state, let alone on a regional or national basis.

The greatest weakness of research and educational programs of most institutions is their vagueness. Too often research agencies are hindered in carrying out planned research or educational programs because of the necessity to conduct research or some educational program requested by a pressure group, or to carry on emergency work necessitated by some unusual condition, or because of the loss of trained personnel. In addition to this, the characteristics of the livestock industry make the planning of an educational and research program in livestock marketing difficult and workers too often start on some individual project without formulating an overall program.

The character of the livestock industry requires an exceedingly complex marketing system. Any discussion of the marketing system must take into consideration the following distinctive features of the livestock industry: 1. The wide distribution of production on thousands of farms and ranches; 2. Transportation requirements in assembling the livestock; 3. The large amount of

* A paper presented at the annual meeting of the American Farm Economic Association, December 27, 1945.

processing required; 4. The handling of more than one species of livestock, each with its own characteristics of production, assembly, processing and distribution; 5. The seasonal fluctuations of livestock marketing coupled with the comparatively uniform demand for meat throughout the year; 6. The consumption of meat although widespread does not coincide with production; and 7. The wide variety of products which involve the problem of joint costs.

The livestock marketing system also separates the animals received into grades so that each may be utilized to the best advantage. The first sort divides the animals suitable for slaughter from those that require additional finishing. The slaughter animals must then be classified according to grade so that those suited for consumption as fresh meat can be channeled to the proper processing plants, while those suited for curing, cooking or grinding can be used for those purposes. The marketing system also provides pricing machinery that will reflect to the producer a remuneration commensurate with the type and quality of livestock marketed. A plan for the distribution of meat among consumers, evenly throughout the year, and to localities where there is a demand for the particular product is also included. In order then, that livestock may arrive at the proper destination to fulfill the requirements for which it is best suited and that products may be made available to consumers, the marketing system must include flexible, far-reaching and well established plans for assembly, processing and distribution.

The test of the marketing system is the efficiency with which it serves both producers and consumers. Immediately producers and consumers are interested in the most advantageous prices—or the highest possible price for the producer and the lowest possible price for the consumers.

Over a period of several years producers and consumers are interested in a marketing system that will provide a continuity of sales and purchases, of the flow of goods, of services and of costs of intermediate services and other factors that enter into the orderly and efficient functioning of the market. The livestock marketing system then may be examined in relation to the efficiency with which the intermediate services provide and operate the assembly, processing and distribution system and the functioning of its pricing mechanism.

Contribution of Research

The aim of a research program in livestock marketing is the development of a collection of data that will show how changes can be made for more efficient operation of the essential intermediate services or improvements in the functioning of the pricing mechanism. This aim certainly cannot be accomplished by a limited research program directed only at certain points within the system. The main factors from which such a panoramic view must be gained will probably include such points as are contained in the following discussion.

Intermediate Services

The first services needed in a good market are those that facilitate the exchange of ownership. Livestock should move through the marketing channels at the lowest cost consistent with good pricing. The conditions discussed in the following paragraphs are necessary for the efficient handling of livestock.

Adequate Marketing Facilities. There must be adequate marketing facilities, transportation, stockyards and selling and buying agencies to handle the livestock as it is delivered by producers.

Although many research projects have included the study of the physical facilities of various markets, the location and cost of stockyards, there has been little done concerning the influence of the adequacy or location of facilities on the prices received for livestock or paid for meat. There is a widespread opinion that there is a surplus capacity, in fact there are 2,420 stockyards of various types located within the borders of the 14 states that participated in the Regional Study of Marketing Livestock in the Corn Belt, but whether this is too many or too few has not been shown.¹ Some states are endeavoring to regulate the number of stockyards allowed to operate by a permit system, based upon public needs, but there are inadequate data on which to base sound judgment. Furthermore, the permit systems now in use did not attempt to put out of business any of the stockyards in operation at the time the systems were adopted.

The acquiring of such data as are needed for such a study or for the economical location of facilities is exceedingly difficult, if not impossible; first, many firms do not keep satisfactory records, or

¹ *Marketing Livestock in the Corn Belt Region*. South Dakota Experiment Station Bulletin No. 365, p. 122.

whatever records have been kept are not made available for research work; second, data obtainable are not suitable for research work; and third, the number of yards involved makes the physical handling and collection of the data beyond the resources of most institutions. Furthermore, the lack of this basic material makes it impossible to formulate a public policy that would restrict free enterprise, or the establishment or the operation of receiving facilities not needed or poorly located. The lack of this knowledge also makes it impossible to conduct an educational program that would result in the formation of a public policy sufficiently strong so that only those stockyards that are needed and properly located would be allowed to operate.

Service Agencies. The number and location of intermediate service agencies and the efficiency with which they operate will, in the long run, affect the prices of both livestock and meat. In the 14 states previously referred to there were 1,387 sales agencies operating at terminal markets and 12,296 local dealers operating throughout the territory, all providing services to facilitate the transfer of ownership of the livestock.² Often livestock is handled by two, three, or even four of these agencies or dealers, each receiving some remuneration for services rendered, before the livestock is finally sold to the packer or returned to the feed lot. On the other hand, much livestock is sold by producers directly to packers thus eliminating the cost of the sales agency. The forces of supply and demand meet at the market place where prices are established, but with literally thousands of market places, sales agencies, and local dealers, and in addition, places where there are direct sales to packers, forces of supply and demand are scattered, while buyers and sellers operate only on a limited knowledge of actual conditions. This scattering of forces hampers the successful operation of the pricing structure and results in uneven prices being paid throughout the market area.

The cost of the labor (dealers, salesmen, unskilled workmen required to handle livestock) is a major item of expense in the assembly of livestock and the efficiency of its use will, in the long run, affect prices of both livestock and meat. Many research projects have been directed at this segment of livestock marketing. Most of these studies have been concerned with the cost of operation of commission firms, cooperative shipping associations, con-

² Ibid.

centration yards, and the like, with the object of reducing charges. These studies have resulted in the greatest measurable benefits to producers of most studies made to date, for by improving efficiency in the use of labor and other operating factors, costs could be reduced and charges for services rendered, lowered.

In many of the studies made to date, data on the complete cost of operation were available. This was true in the case of commission firms and cooperative shipping associations. On the other hand, studies directed at other agencies have not been attempted because the records kept were meager and because the method of charging for services was not uniform.

Although, in some instances, research has shown where savings in charges could be made with resulting higher returns to producers, a complete study of the intermediate services, those rendered between the farm and the packer, has not been attempted nor has the effect of these services on the whole price structure been made. Neither has there been any attempt to show the effect on prices of the scattering of the forces of supply and demand among the many market places.

Processing

Policies prevailing in the processing field—or that part of the marketing system where animals are slaughtered and the meat prepared for retail trade—have important and distinct influences upon the marketing arrangements, selling and buying agencies and the structure of prices for both livestock and meats. The following discussion does not make an exhaustive survey of the field but endeavors to point out some of the segments of the field toward which additional research work should be directed.

Location of Packing Plants. Many factors have entered into the location of present packing facilities, but it is doubtful whether the results have provided a packing industry that is most economical in providing the required services. A study stressing the effect of the location of packing facilities would be especially important at the present time in view of the decentralization of the packing industry that has taken place in the past decade and the possibility of further decentralization that may develop with the establishment of small slaughtering plants in connection with cold storage locker plants. Also the Interstate Commerce Commission's recent decision to reduce freight rates on fresh meats and packing house

products from the mid-west to the Pacific coast now makes such a study exceedingly important.

A thorough study of the location of packing facilities in terms of the influence upon costs, competition and price structure needs to be made. Such a study, although the need for it has been great, has not been made for various reasons; first, the study is of such a broad scope that no single agency could undertake it, primarily because of the limited geographical area covered by any one institution; second, because of the lack of enough personnel at any one institution trained to conduct research in the various phases of the study, such as discovering the optimum size of plant to render service at a minimum cost, processing costs in relationship to transportation costs both to and from the plant, and size of plant in relationship to both the supply and demand areas; third, a lack of cooperation between the institutions conducting the research and the packing industry; fourth, the type of records kept does not furnish the necessary data for such a study; and fifth, no standard methodology for such a study has been developed.

Procurement Policies of Packers. The procurement policies of the packers have never been fully related as to their effect on the price structure. Many studies have been made of prices of livestock purchased at terminal markets, auction markets, concentration yards, and at packing plants but the effect of the various procurement policies on the pricing system has never been clearly shown. Studies of "direct marketing" made previously, consider the problem from the immediate or short-time concept, while studies advocating sales at a limited number of market places, consider the problem from the long-time concept. Sale of livestock direct to packers and at auction markets has increased materially during the past two decades, yet, in only a few studies, have attempts been made to show what effect the various methods of procurement have had on the price structure and these have fallen short of the objective.

Undoubtedly there are good and bad points to be brought out for each of the procurement policies practiced by packers, but studies so far have failed to show conclusively that any one is desirable over the others, nor has the effect on the general price structure of dividing purchases among the various ways been shown. This is due to the following reasons: Data on the carcass cost in relationship to the method of purchase including transporta-

tion costs, dressing percentages, cost of buying, etc., are not available and under present conditions it is doubtful whether the cooperation of the packing industry could be secured in the making of such a study. Also such a study would require trained specialists in various fields, and few, if any, institutions have sufficiently trained personnel to interpret the results properly. Such interpretation would involve the discussion of procurement under theoretical conditions and might be criticized by some, but, in all probability, such an approach to the subject would represent the most realistic and practicable procedure that could be used in attempting to appraise the economy of present procurement policies.

Product Distribution

Although there have been many changes in meat distribution in the past two or three decades, most conspicuous among them is the disappearance of the specialized meat market, the development of the chain food stores, and the growth of the cold storage locker plants. Improvements in processing, in refrigeration, and in other technical lines have had a direct influence upon distribution. Likewise the changes that have occurred in the demand for meats, emphasizing smaller cuts such as chops, meats ready to serve and partially cooked meats, have had their influence upon distribution. The central question, however, is how these and other factors relating to the distribution of meats affect livestock marketing and the structure of prices for both livestock and meats.

In order to obtain the answer and provide the necessary knowledge it will be necessary to examine such factors as cost and efficiency in meat distribution, sales methods, selling costs and competition, not only in distribution but also in other parts of the market and to stress their influence upon market and price structures. Although research in this field has an important bearing upon the plans of those working strictly in the field of livestock marketing, it cannot be expected that such workers should attempt to cover the problems of meat distribution also. As there is a need for this information, however, the livestock marketing specialist should encourage others to develop research in the field of food distribution that will provide the necessary knowledge. Furthermore, it should be emphasized that these and other developments in the distribution field are closely related to ownership of facilities, procurement policies and the competitive situation among marketing agencies in livestock producing areas.

Retail sales methods and consumer preferences for meat are two phases of product distribution that have received little attention in the past. In the next few years, with the advent of the home freezer unit and the new ways of preparing meat developed during the war period, consumer preferences and retail sales methods will take on a new significance and must be given a more prominent place in research and educational work.

Coordinating Results of Research Work

One of the major problems in the development of a livestock marketing research program is that of organizing research projects directed at individual segments of the market—for it must be recognized that only a research project limited in scope can be carried on successfully by any one institution—into a coordinated whole which will eventually supply the basis for formulating desirable improvements. In view of the fact that many administrators wish to include only those projects that will lead to immediate and measurable benefits, the collection of background material is made difficult. While in actuality, if it is desired to get a market-wide analysis, some research projects must provide only supplemental details on which to base such additional research as can be successfully done only after the complementary material has been assembled. Furthermore, research in the past has followed a similar pattern in each state. When one state made a study of auction markets, for example, others followed suit and covered some of the same territory, thus duplicating work. An overall coordinated research program would assist in covering the necessary projects, without duplication or overlapping and provide the desired knowledge in a much shorter time and at less expense.

Adequate coordination of the various projects can only be accomplished by a cooperative approach. The need for such an approach has been evident for many years, as the possibility of a group of agricultural experiment stations conducting research has been mentioned many times since 1920. In the spring of 1939 the directors of the North Central Experiment Stations authorized the appointment of one representative from each state to constitute a committee whose function would be an integrated program of research dealing with the marketing of livestock. The directors requested (1) that the committee survey the field of livestock marketing to determine projects on which there should be cooperative, interstate, or regional research, and (2) that the com-

mittee prepare plans for the organization of any cooperative projects which would be thought likely to lead to results of value. The Corn Belt Livestock Marketing Research Committee, composed of one member from each of 14 cooperating states and a representative of the Bureau of Agricultural Economics, has completed two projects and is now working on the third.

Undoubtedly a regional or cooperative research approach will be a great help in coordinating the research work in livestock marketing done by the various institutions. These cooperative projects are blazing the trail into new research methods and the research personnel engaged on the work must maintain a regional viewpoint with respect to problems under consideration in order to secure the most satisfactory results. The future of this type of research depends partly on the effectiveness with which these pioneering committees conduct the work and partly on the development of sound research programs within the cooperating organizations.

Accomplishments

It might be properly asked, at this point, just how far research work in livestock marketing has progressed. Perhaps this can be shown by reviewing the emphasis placed on marketing subjects since the beginning of the century, as shown by Experiment Stations and United States Department of Agriculture publications relating to marketing. These publications indicate that early interest centered around methods of handling and packaging various products and the functions of different selling agencies. This was followed by a period where emphasis was placed upon marketing structure or studies designed to show the physical handling of the product and how and where the change of ownership took place. In the next period, interest centered around efficiency of the market operation where margins and costs of marketing were analyzed. In recent years the field was broadened somewhat and transportation and prices were included.

What Needs to be Done

Additional information is needed on production areas, characteristics of supply (especially on the production pattern of feeder livestock) and the economic significance of the shift of the supply areas which has taken place during the past twenty years. This shift in supply areas should be examined both as to change in the

numbers of livestock on a geographical basis—development of the cattle industry in the South, for example—and as to the change in the type of the enterprise—the shift from the purchase of stockers and feeders to the small breeding herd with the sale of the heavy calf as baby beef is a good example of this latter change.

Work with livestock prices is still in its infancy. Work in prices, to date, has centered around price trends, both seasonal and long-time trends, price spreads between grades sold on one market or prices received by producers when stock was sold at different markets or in various ways. But there is need for studies concerning the efficiency of the pricing structure both from the short and long time aspects; the effect on the price structure of direct buying and the decentralization of the packing industry, and more complete studies on differentials both between grades on a particular market and between markets.

Such studies are exceedingly difficult, however, because of the lack of uniformity of grading at various markets. Only uniform grading and price reporting on at least all of the markets with Federal Market News Service, will make a complete study of prices possible. However, it should be pointed out that this will be a difficult task because of the heterogeneity of receipts and the variability of judgment.

Although some work has been done on efficiency of operation of service agencies, a more complete coverage of markets and a reappraisal of agencies already studied should be made in light of the decentralization of the packing industry and the establishment of thousands of local markets, concentration yards and auction markets throughout the length and breadth of the country. Furthermore, if prices drop in the next few years, margins and costs will become more noticeable, and studies will be focused toward operating efficiency.

The various methods of sale possible for use by farmers should be comprehensively studied and appraised. This should also include a study of possible methods of sale, such as selling on a graded carcass basis, that might provide a more satisfactory method of sale than those already in use. A study of the economical location of stockyard facilities and packing plants is badly needed at present, especially in view of the interest shown in some localities concerning cooperative packing plants and the establishment of small abattoirs in connection with cold storage locker plants.

Studies in the field of consumption economics will be especially timely in the next decade since the many changes that are occurring in the production, processing and distribution phases depend for success on their acceptance by the consumer.

Educational Programs

Research should carry on to the point of ascertaining where improvements are needed, the means by which the improvements can be accomplished and the character of the influence upon marketing that may be expected to result from such changes. Then there should be an organized educational program to acquaint the public with the needed changes and to gain support for the necessary action to place the improvements into operation. The educational program—whether it be classes in marketing in high schools or colleges, evening classes conducted by Smith-Hughes agricultural teachers, county agents, or marketing specialists—must be developed on the basis of reliable knowledge of the market if it is to bring about the desired improvements and avoid harmful indirect consequences.

The general aim of an educational program in livestock marketing is to provide a comprehensive knowledge of marketing machinery, methods and policies that make up the chain of events that transpire between the producer of livestock and the consumer of meat. From any individual's viewpoint, he will acquire the knowledge that will enable him to adjust livestock production to market demands and to select, from those available to him, the most effective marketing procedure. The educational program should not stop there, however, for such a program should also create public sentiment sufficiently strong to bring about the changes in the marketing of livestock that have been shown by research work to be advisable.

The failure of the educational program to provide the necessary knowledge to accomplish this aim can be traced largely to the failure of research to provide the required information, or to present the findings in such a way that they are usable in an educational program. Until the findings of the research worker have been set down in a concise and understandable manner, usable both by an individual producer and in an educational program, the research worker has accomplished but half of his objective. Furthermore, only when the research program has provided the necessary

knowledge on which to base a sound educational program will it be possible to create public sentiment, or for that matter, individual support for the changes needed to perfect livestock marketing.

In conclusion, the first job that faces the research worker in livestock marketing is to fill in the gaps in the background material, including such studies as the economic significance of shifts in production areas, the characteristics of supply of livestock and the pattern of consumption of meat under varying conditions. Studies directed at the economic location of markets, processing plants, types of service rendered, and transportation facilities available should then be completed. These studies would set the stage for a fuller appraisal of the effects of various procurement policies and the decentralization of the packing industry upon the price structure. This would be followed by an examination of the distribution system and of consumer demands for meat. Finally all of this material should be coordinated to form the basis of the educational program, which should be started early and revised from time to time as the research program develops, so that as complete information as is available will always be included.

SOME CONSIDERATIONS OF RESEARCH IN MARKETING HORTICULTURAL PRODUCTS*

H. R. WELLMAN AND G. L. MEHREN

University of California

DEVELOPMENT of a research program in marketing horticultural products might well begin with a critical analysis and evaluation of the work already done in the field; of the kinds of problems attacked, of the methods of analysis employed, and of the results secured. What parts of the field have been relatively well cultivated, and what parts are still virtually untouched? What methods have been used in analyzing the different types of problems? How appropriate were they? In what areas are existing methods deficient? Answers to these and other questions would, we suggest, be exceedingly helpful in laying out a program of research. However, proper survey and appraisal of marketing research even in a field as narrow as horticultural products would necessitate far more intensive inquiry than is possible in this paper. All that we shall attempt here is to suggest the proper scope of research in the marketing, to indicate possible criteria for evaluating such research, and to outline certain phases of horticultural marketing in which further development is clearly needed.

In classifying studies in marketing a clear distinction should be made between economic studies and technological studies. The former are presumably within the competence of the marketing economist; the latter are not. Incursions by the economist into technological aspects of marketing are at the best a wasteful use of resources. The same criticism applies to incursions by the technician into the economic aspects of marketing.¹

In marketing as in other fields, economics deals with the allocation of scarce resources among competing ends for the purpose of obtaining desired yields in terms of one of those ends. Since marketing is economic activity involving the exchange of goods and services, the marketing economist should concern himself with processes of maximization in such exchanges. In enterprise economics, factors affecting the firm's profit-position are the central problems

* A paper presented at the annual meeting of the American Farm Economic Association, Chicago, December 27, 1945.

¹ This viewpoint is discussed at length in *Research Method and Procedure in Agricultural Economics*, Report of the Advisory Committee on Economics and Social Science Research in Agriculture, August 1928, pp. 19-20.

for analyses. In social economics, on the other hand, the proper subject matter of the economist is the degree to which various uses of market resources contribute to the realization of stated social norms.

Many studies which purport to deal with the economics of marketing are in fact almost entirely descriptive in nature. The contribution of these studies in providing background information basic to subsequent analysis should not, however, be discounted. Intimate knowledge of the characteristics of the commodity, the ways in which it is handled, the channels through which it moves from producer to consumer, the functions performed at each of the several stages, and the charges and margins exacted is a prerequisite to an analysis of economic relationships involved in actual markets. Nevertheless it must be emphasized that description, however detailed and accurate, does not itself lead to the solution of any marketing problems.

An economic problem is a question about relationships among variables. It is only through determination of the interrelationships of the factors in a problem that the issue of causation may be touched, and the possibilities of prediction and control realized. Analytical research in marketing, therefore, is directed toward the discovery of regularities in the relationships among market factors. The more complete the explanation of relationships the greater is the possibility of prediction. Without prediction control is impossible.

Many problems in economics involve questions of efficiency. This term includes two closely related concepts (a) firm or enterprise efficiency and (b) social efficiency. Inquiry into enterprise efficiency requires no reference to ethical norms. First, the firm's profit policy must be set forth.² Then the degree to which the use of available resources in the firm's given economic context contributes to the fulfillment of such a policy indicates the degree of efficiency of operation. Marketing research in business economics should therefore provide analytical categories and techniques to measure the effectiveness of the firm's operations in obtaining its end. No specific recommendations for enterprise policy need emerge. Broadly stated there are two sets of questions relevant to

² Here "firm" has the usual meaning of a single profit-maximizing agency and it is assumed that the firm attempts to maximize returns over some stated profit period.

this inquiry. First, what outputs are associated with varying combinations of the available productive factors, and how do the prices of these factors vary with the quantities used? Second, what is the relation of sales price per unit to changes in output and in other price determining factors? With these data the effect of firm policy on its profit position may be appraised.

In addition to these questions of firm activity there are other important economic issues of far wider scope in marketing. How well do prices emerging in market processes provide guides to an equilibrium allocation of resources? How are the gains obtained by enterprises through organizational or technological improvements distributed? How do price relationships that emerge in marketing affect the level of activity in the economy as a whole? These questions can also be answered without reference to norms, but ultimately they affect recognized welfare problems. While the formulation of norms for individual and group behavior is not a proper function of the economist, taking socially desired ends as given, the equipment of the economist is well suited to measuring the degree to which market processes contribute to social efficiency in the use of resources.

If evaluation of marketing research studies is to be attempted, some basis for judging their relative merit must be established. Two sets of criteria are here proposed. The first set involves validity of method; the second significance of results.

The essentials of scientific method have often been discussed. Only two aspects will be mentioned here. Is the question asked by the investigator one that can be answered by analysis of actual market data? Do these data meet the assumptions of the measurement techniques employed, and if not, will the discrepancy impair the reliability of the conclusions? The first point implies that the conclusions obtained describe relationships actually prevailing in a market. The second implies that the completeness and reliability claimed for the explanation of relationships are fully supported by the data used. Conformity to these two requirements will assure that conclusions are not merely a logical derivative of arbitrary assumptions, but rather are a statement of empirical relations which may be proved true or false, and the generality of which may be tested by further analysis of similar data.

Standards relating to validity of method provide no basis for determining the relative importance of studies. Studies equally

valid with respect to method may differ widely in significance. Standards of significance rest essentially on normative concepts, and hence there is no logical compulsion for their universal acceptance. Nevertheless such standards are needed not only for appraising the importance of completed research, but also for selecting new research projects. The number of research problems is very large in relation to the resources available for their solution. Hence, choice among available problems is necessary.

Tentatively, we offer the following standards for appraising the significance of research: (1) Does the study provide tested generalizations which challenge the relevance or consistency of existing theory, or which fill a gap in existing theory? (2) Can the conclusions be generalized to other classes of economic activity? (3) What is the potential effect of results on human behavior and social institutions?

Another aspect in the development of a program of research in marketing that needs careful consideration is the determination of the relevance of existing economic theory for empirical research.³ What theoretical tools are available for research in marketing? How useful are they for factual analysis?

Theory should contribute to empirical research in guiding the investigator in the formulation of his problem, in the framing of tentative explanations, in the classification of needed data, and in the selection of appropriate measurement techniques. To the extent that economic theory actually does so it performs an indispensable service.

In any marketing problem the research worker is confronted with a bewildering array of facts and of possible relationships among them. His task is to select from among the many facts those which are pertinent to the problem under consideration. To do this economically he must start with some knowledge of facts and some plausible theory of the relationships among facts. Plausible theories of market relationships may be derived from many sources,—from personal observations in the market, from beliefs held by persons engaged in marketing, and from the body of generalizations known as economic theory. None of these sources should be overlooked, least of all the latter one.

³ Economic theory is here taken to mean a set of (1) specifications of variables and context, (2) statements of relationships among the variables, and (3) corollaries logically derived from the specified definitions and relationships. These categories and principles may originate from assumptions, logical derivations, or observation.

The newer developments in economic theory subsumed under the terms imperfect or monopolistic competition provide a better basis for classification of many actual market situations than either perfect competition or monopoly. In one very important respect, however, the new theories do not escape the inherent difficulties of the older one, namely, that many of the relationships asserted are not capable of being determined empirically, at least with known methods. While we do not ask economic theory itself to supply factual answers, we do require that it do more than merely provide "a correct statement of a relationship that bears upon the solution of a significant economic problem. . . . For useful empirical research, the relationships . . . must also be amenable to quantitative, or at least factual, investigation."⁴

Both the economic theorist and the empirical research worker have a responsibility for securing a closer integration of theory and factual analysis. On the one hand, the economic theorist needs to pay more attention to formulating statements of relationships in such a way as to be capable of empirical verification. On the other hand, the empirical research worker needs to pay more attention to developing techniques which are capable of measuring the variables defined in theoretical formulations.

The discussion thus far is deliberately general in nature. Marketing is an integral phase of the entire process of production. It can be separated from other phases of production only for convenience in classification and then at some cost in precision and completeness of expression. Research in the economics of marketing should differ from research in other fields of economics only as the peculiarities of the context require.

It is not possible here to enumerate all the unanswered questions in horticultural marketing, to classify them or to suggest specific techniques for their solution. Therefore we confine ourselves to consideration of two related sets of important economic problems. It is intended, through these examples, to illustrate the types of inquiries which we believe will yield fruitful results.

The first set of problems relates to the determination and measurement of factors affecting marketing margins and charges. Little analytical research has been undertaken in this field. Most studies of marketing margins and charges on fruits and vegetables have

⁴ The Committee on Price Determination for the Conference on Price Research. *Cost Behavior and Price Policy*, p. 272. National Bureau of Economic Research, 1943.

thus far been directed mainly at determining the average spreads in some particular time interval. One of the most elaborate of these studies is that of the U. S. Federal Trade Commission.⁵ This painstaking inquiry, which covers the period October 1935 through December 1936, traces a large number of separate shipments of different fresh fruits and vegetables from producers to consumers and gives the average margins taken on them at each of the several stages of distribution. The magnitudes of these margins do not, of course, provide any clues regarding the efficiency with which the different marketing services are performed. But they do suggest the areas in which reductions in margins must come, if the total spread between consumer and producer prices is to be narrowed appreciably. In the case of fresh fruits and vegetables these areas are retailing, transporting, and packing.

Much less is known about the variations in margins among individual firms performing the same type of service than about the differences in average margins at the several stages of distribution. It is only in recent years that attention has been given to determining the variations in margins taken by similar handlers. One of the most comprehensive of such investigations is that of the Cooperative Research and Service Division, Farm Credit Administration, on the retailing of fruits in New York City.⁶ The data on retail margins presented in that study exhibit very wide variations among stores. Only a small amount of the variation, however, seems to be associated with such factors as type of outlet, income area in which the outlets are located, size of outlet, selling price per unit, and amount of spoilage. Failure to discover more definite relationships might have been due in part to inaccuracies or lack of comparability in the data and to the particular methods of analysis employed. Yet the presumption remains that the major causes of the margin variations on fruits and vegetables among retail outlets still await determination.

Not only is there need for comprehensive studies relating to variations in marketing margins among firms during a given time interval, there is also need for careful analysis of changes in marketing margins over time. Thus far such studies have relied

⁵ *Agricultural Income Inquiry*. Part II.—“Fruits, Vegetables, and Grapes,” 1938.

⁶ M. P. Rasmussen, F. A. Quitslund, and E. W. Cake, *Competition between Fruits at Retail*, New York City, November 1939, *Sales of Fruit at Retail*, New York City, March 1940; and *Fruit Sales in Retail Grocery Stores and Meat Markets*, New York City.

mainly on price series constructed primarily for other purposes. For example, the recent publication of the Bureau of Agricultural Economics on *Price Spreads Between Farmers and Consumers For Food Products*⁷ makes use of retail prices collected by the Bureau of Labor Statistics and of farm prices collected by the Department of Agriculture. For fresh fruits and vegetables in particular it may be questioned whether these price series or ones constructed from wholesale prices as given in market reports are sufficiently accurate for use in refined analyses of relationships between price movements at different stages in the marketing process or of changes in the marketing margins themselves. Further, for most fresh fruits and vegetables comparisons between even monthly price quotations fail to reveal the shorter-time movements, many of which may be of considerable significance.

Accurate portrayal of the behavior of prices of fresh fruits and vegetables at the different stages of distribution requires the collection of prices on at least a weekly basis and in many cases on a daily basis.⁸ Also it would appear desirable to be able to identify both the buying and the selling prices of particular firms, so that the similarities and differences among firms with respect to price and margin behavior may be ascertained. Along with prices paid and received, data on quantities purchased and sold would also have to be secured.

Collection of price and quantity data on any considerable number of items at frequent intervals from firms constituting an adequate sample in a given market would, of course, be a rather large undertaking. And without the cooperation of the firms themselves it could not be done at all. Analysis of the large body of data would also be a huge job. Nevertheless, if the temporal behavior of prices at the several stages of distribution, of marketing margins and of the factors associated with such changes are to be determined, research along the lines suggested above appears to be necessary.

The second set of problems is related to attempts of firms or groups to obtain control over prices and margins through combina-

⁷ U. S. Dept. Agr. Bureau of Agricultural Economics. Misc. Pub. No. 576, September 1945.

⁸ Comparisons between daily average prices in selected wholesale markets and returns to growers on certain fresh fruits and vegetables are given in the U. S. Federal Trade Commission *Agricultural Income Inquiry*, Part III—Supplementary Report, pp. 96-139, 1937.

tion, integration, or scale. On the one hand, individual growers or shippers, either under governmental sanction or on a voluntary basis, have by central control over supply movements effectively transformed an industry into a single firm with respect to this price-affecting factor. They have on occasion further sought to influence demand for the commodity. On the other hand enterprises which were in all respects single firms have sought the same ends by concentration of volume and integration of functions under single management. Neither firms nor groups can have a policy unless they are able to control some price determining factor.

The establishment and administration of marketing control programs require analysis of the factors affecting returns and the determination of those factors which can be controlled by the policy agency. These programs have nearly always aimed at governing price through central adjustment of volume or quality in various outlets. However, in practice nearly all phases of marketing are affected by such adjustments. The questions raised in the formulation, administration, and appraisal of these controls open a wide field of research.

Two general types of control programs have been employed. One is limitation of total supply in all outlets. The other is the controlled distribution of the product among outlets separated by space, time, income, or buyer-preference characteristics. Where demands for products and in outlets are mutually independent, available economic theory indicates the effects of alternative patterns of distribution on net returns and further provides bases for judging benefits and costs.⁹ The research problem here is the empirical determination of quantity-price functions for the commodity as a whole and in the several outlets. For while theory sets out the conditions for maximization with known demands, it does not set out the constants of the demand functions. Further, the demands for the product in all areas, time periods or forms must be discovered in advance of the shipping season if the theoretical requirements for maximization are to be met.

The major problems, both from the research and administrative viewpoints, arise when demands are interrelated and long-run

⁹ See: "The Controlled Distribution of a Crop Among Independent Markets," by F. V. Waugh, E. L. Burtis and A. F. Wolf in *Quarterly Journal of Economics*, November 1936. See also "Some Preliminary Considerations Concerning the Work of the Marketing Research Committee of the American Farm Economic Association."

reactions are considered. What, for instance, are the effects of supply limitation on short-run demand and utilization and on long-run supply response of competing goods? How do short-run price increases affect the long-run demand and the supply function of the product under control? What groups are benefited or injured by restriction of output? What is the relative stability of compulsory industry-wide controls and voluntary programs embracing only a part of the industry? Where demands are stratified geographically, by shipping periods, by purchasing power, or by differences in form, the immediate research problem is to determine the net quantity-price functions in all the strata, again in advance of the season if research is to provide basis for policy. Knowledge of the degree to which demands among various goods and for similar goods in different markets are interrelated is essential both in measuring the enterprise efficiency of the control agency and its contribution to social welfare. However, little theory immediately useful in the analysis of such situations has been developed, and few practicable measures of interrelationships over time or within commodity classes are available. It is in the analysis of short-run demand relationships, and particularly in the dynamic aspects of such problems that research in marketing has been most deficient and in which the greatest opportunity for development exists.

Many other problems which continuously appear in the operation of marketing control programs are as yet unanswered, and for some of them no attempts at solution have been undertaken. In the long-run, how do demands and outputs in related outlets react one upon another? What are the possibilities of keeping the various strata separated? What is the distribution of benefits from discriminatory controls and how are supply responses governed thereby? Little research has been undertaken on the movements of intraseasonal demands. The impact of method of sale and price quotation on demand is similarly unexplored. Because few, if any, practicable measures of relatedness are available, the effectiveness of grade and size proration cannot be precisely evaluated. What are the demands particular to various income groups and geographic areas—and, as a matter of interest, how closely do they coincide with the assumptions on which diversion programs are based? Many control programs have used advertising as a means of manipulating demand, but few studies in the economics of

advertising farm products have been made. Finally, there has been little inquiry into the possibility of using group control as a means of decreasing marketing costs through scale economies.

Measures of quantity-price relations, competition between goods and outlets, and long-run shifts in demands and production must be obtained in order adequately to evaluate the effects of these programs on net returns to those who initiate them. To evaluate their social effects, measures of changes in consumption patterns and in long-run productive capacity are necessary. Further development of theory and statistical techniques to include short-run and dynamic demand reactions is obviously needed. Price analyses, including measures of relatedness over time and between goods and outlets should be extended. The great bulk of unsolved problems relate either to very short-run or to very long-run reactions. It is in these spheres that the theorist and the empirical research worker can contribute most.

The similarities in method and objective of industry-wide marketing controls and single-firm price policies have already been mentioned. Many of the economic problems pertinent to the former are also relevant to the latter. Large-scale enterprise is now a nationally significant phase of horticultural marketing, and its development has been associated with marked changes in organization, integration of functions, and handling methods. An important research problem is to determine how these large-scale or integrated concerns actually influence prices and practices in their own locale of operations.

One large food chain has recently published a statement of its policies relative to both the purchase and sale of fresh fruits and vegetables.¹⁰ Certain sections highlight important issues involved in the formulation and application of price policies of large-scale organizations.

In buying in the field six points are outlined,¹¹ the most important of which are: (1) "*Prevailing market prices* shall be paid, taking into consideration both grade and quality of the product. (2) It is Company policy never to make a counter offer at prices lower than producers quote. Purchases are made at the price quoted by the producer or they are not made at all from that producer. (3) It is Company policy to purchase regularly the amount of produce

¹⁰ *Safeway Policies*, January 1944.

¹¹ *Ibid.*, pp. 22-23.

needed for daily requirements. The Company neither speculates in farm produce nor stays 'off the market' in any attempt to get better prices."

In selling at retail, price policy¹² on fresh fruits and vegetables is based upon maintaining "a reasonable mark-up over landed warehouse cost, . . . except in cases where it is necessary to meet competition." A reasonable mark-up over landed warehouse costs on fresh fruits and vegetables is indicated to be 15 percent.¹³ To meet competition is interpreted to mean, "meet the lowest price of every competitor item by item, day by day, and town by town." This the Company specifically states provides "for *meeting* the competitor's price, and not *leading* it," which reflects, the Company says, another element of policy, namely, "of live and let live."

The published statement of policies implies that the Company does not deliberately use its size to secure produce at prices lower than those paid by its competitors. These policies also imply that the Company follows the practice of passing on to consumers in the form of lower prices a considerable part of the reduction in costs arising out of technological and organizational gains. Even though the Company does not lead its competitors in reducing retail prices on individual items, its policy of meeting "the lowest price of every competitor item by item, day by day, and town by town," suggests that its average price on a bundle of items would be below that of its competitors. It is not clear that this policy is consistent with the usual meaning of a "live and let live" policy. The announced mark-up of 15 percent over landed warehouse cost on all fresh fruits and vegetables also suggests a low retail price policy on these items. In 1935-36 the Federal Trade Commission found that the retail mark-ups over "laid-down costs" on fresh fruits and vegetables sold by chain stores in mid-western and eastern markets averaged 41 percent.¹⁴

Several major questions are involved in analyzing the activities of firms large enough potentially to affect the price structure. What are the effects of concentration and integration on costs and

¹² Ibid., pp. 31-32.

¹³ Ibid., p. 32. However, on page 23 the statement is made that "fresh fruit and vegetables should not be sold for less than 15 percent landed warehouse cost, . . ." which indicates that this figure may be a minimum rather than an average mark-up.

¹⁴ Federal Trade Commission. *Agricultural Income Inquiry*, Part II, "Fruits, Vegetables, and Grapes." p. 477, 1938. While the average retail margin expressed as a percentage of the retail price was 29 percent, such margin expressed as a percentage of the price paid wholesale receivers was 41 percent.

methods of marketing in fruits and vegetables? How do these enterprises affect the structure of local or regional competition?¹⁵ What are the effects of the practical applications of their policies on returns to growers, prices to consumers and profits to the firm in both the short-run and the long-run? Portrayal, analysis, and appraisal of the price policies of large-scale organizations engaged in marketing are clearly needed.

These problems exemplify the types of analytical studies which we believe the economist can engage with greatest profit. Descriptive background is necessary for their solution and cooperation from technologists may be helpful, but basically these problems are a matter of the ways in which various economic magnitudes change together. They are all questions about phenomena which occur in markets. For the solution of some of them, available economic theory should prove helpful in formulating the problem and in selecting data and techniques of measurement. For others no adequate theory appears to be at hand; new theoretical categories and principles must be developed and possibly, new kinds of data and techniques must be used. These two sets of problems are closely related. The same kinds of questions appear in them and to some extent the same principles are involved. Valid solutions should contribute to generalization of knowledge in economics. Further, the questions posed in these problems are intimately related both to enterprise and social efficiency. Answers to them not only should facilitate the operations of the enterprises concerned, but should also provide data to evaluate the consistency of those operations with the broader objectives of society at large.

REVIEW OF PAPERS ON RESEARCH AND EDUCATIONAL PROGRAMS IN MARKETING

G. W. HEDLUND

The Pennsylvania State College

An assignment to discuss research and education programs in the marketing of any group of farm products is a broad one. I am not aware that the gentlemen who prepared these papers received any instructions as to the content of their papers except that indicated by the subjects assigned. Neither am I aware of any limitations placed on them except as to the length of their papers. If these are the facts, each was at liberty to de-

¹⁵ These problems are posted by A. C. Hoffman in "Changing Organization of Agricultural Markets" and by H. B. Rowe in "Economic Significance of Changes in Market Organization" both in this JOURNAL, February, 1940.

velop his subject as he saw fit. Drs. Wellman and Mehren restricted the title of their paper to "Some Considerations of Research in Marketing Horticultural Products." They chose to omit a discussion of educational programs.

For the most part these men did not have the opportunity to make a comprehensive analysis of all completed and current research and educational programs in their respective fields. Although this would have been interesting and instructive, it is a far bigger task than we could expect busy men to perform for our enlightenment this morning. To a certain extent this has been done by Dr. F. L. Thomsen and reported in the current issue of the *JOURNAL* of this association.¹

Rather than review existing research and educational programs, Dr. MacLeod limited himself to the task of giving us his concept of what good research and educational programs should be. If I summarize correctly his requirements of a good research program, his principal requisites are these:

1. A research project should be planned to solve a problem.
2. The research worker should formulate a possible method of solving the problem as a beginning hypothesis.
3. If nonexistent data are required, collect the data relevant to the problem.
4. Determine the relationships that bear on the problem.
5. Generalize the relationships to the extent that the results can be used to answer similar problems in comparable markets.

I cannot find fault with these requirements, except possibly the second. If he means by making a hypothesis that the research worker should think about and discuss the problem to the point where there appear to be, for example, three possible solutions and then proceed to collect data to test the adequacy of each solution, I have no difference of opinion. However, someone might interpret him to imply that the researcher should think about and discuss the problem to the point where he is sure in his own mind which of the three is the best solution, and then proceed to prove it, without regard to the alternative solutions. If so, I disagree and believe such a research worker would be worse off than with no hypothesis whatever. Unfortunately there is such work parading as research.

Dr. MacLeod then illustrated his ideas by discussing some of the work of the New England Research Council. In his discussion he makes several statements which illustrate his point of view. From his discussion I take it that he believes the economic researcher should either know enough about the technological aspects of the problems to handle them or have the cooperation of technicians to bridge this gap. In other words, he believes the economist, either independently or in cooperation with others, should study the problems at hand regardless of whether or not they are largely economic in nature.

He believes the researcher should not necessarily advocate the adoption of the solution that he has discovered. To quote: "Whether or not any

¹ F. L. Thomsen, "A Critical Examination of Marketing Research," this *JOURNAL*, Vol. XXVII, No. 4, November 1945.

program of route reorganization is put into operation, is not for economists alone to decide. We can indicate the potential savings, suggest the manner in which they can be realized, and point out some of the economic and other considerations that should be weighed in arriving at a decision, but that is as far as we can go and still remain research workers." That we should go that far is not questioned. But are we not permitted, as citizens if not as research workers, to lend our weight to what appear to be proper solutions to marketing problems?

Because Dr. MacLeod has worked with the New England Research Council and has cited some of its activities, he sanctions, by example if not by statement, the collective action of several research agencies in performing research. The problems in the marketing of most products go far beyond state boundaries. My brief experience leads me to believe that if the colleges are to be a vital force in finding answers to the regional and national problems in marketing, as well as in other economic fields, we must do much more research cooperatively.

Dr. Phillips in his paper states that "The aim of a research program in livestock marketing is the development of a collection of data that will show how changes can be made for more efficient operation of the essential intermediate services or improvements in the functioning of the pricing mechanism." He also points out the need for a series of systematically developed research projects coordinated throughout the nation. He goes to some length to emphasize the desirability for cooperation between research agencies in order that individual projects may be developed into a coordinated whole, duplication of effort reduced, and regional and national problems studied. I have no question but that cooperation between research agencies is particularly necessary in the study of livestock marketing and, as I have already stated, it is also important in the study of the marketing of many other products. The midwestern states are to be congratulated on the progress and accomplishments that they have made in this respect.

The bulk of that part of his paper dealing with research is given over to a discussion of the research needed in various phases of livestock marketing. He also indicates some of the problems that confront the researcher, and makes some criticisms of existing work. He ends up with a summary of the research which should be done.

Not being at home in the livestock marketing field, I am not in a good position to appraise this paper. But I sum it up as a general description of livestock marketing research, its problems and future needs. The author indicates that much more work should be done in practically every phase of livestock marketing. He indicates that improvements should be made over some past research, but he has not been very specific and clear-cut in his suggestions as to how these improvements should be made.

Drs. Wellman and Mehren chose "to suggest the proper scope of research in marketing, to indicate possible criteria for evaluating such research and to outline certain phases of horticultural marketing in which further development is clearly needed."

These men recommend that we make a clear distinction between economic and technological studies. They further suggest that the economists

stay out of the latter and the technicians stay out of the former. Perhaps part of the apparent difference of opinion between them and Dr. MacLeod is a matter of definitions. Just what is an economic study, what is a technological study, and where is the dividing line between them? But even though we had our definitions clear-cut, I suspect there is some difference of opinion between them and Dr. MacLeod as to the proper field for economists to investigate. Certainly these two authors differ with Dr. Thomsen, who suggests that the way for the economist to contribute to improvements in refrigerated transportation is for him to design an improved refrigerator car. Although I am not reviewing Dr. Thomsen's paper, I might suggest that if the United States is forced to rely on the economists to design her refrigerator cars she is in for a darker future than I expect.

These authors propose two tests for judging the relative merits of marketing research. One is the validity of the method used, and the second the significance of results. The first deals with whether or not the question to be answered by research can be answered by analysis of factual data, and whether or not the data meet the assumptions of the measurement techniques used. To this extent these men emphasize proper statistical procedure, the lack of which will fail to produce useful results in any analysis of market data.

They suggest three standards for appraising the significance of market research: "(1) Does the study provide tested generalizations which challenge the relevance or consistency of existing theory, or which fill a gap in existing theory? (2) Can the conclusions be generalized to other classes of economic activity? (3) What is the potential effect of results on human behavior and social institutions?"

They do not suggest the relative weights of these proposed standards, but taken as stated they will challenge the results of most marketing research.

These men then outline two sets of problems in the marketing of horticultural products which they suggest need more investigation. One revolves around the determination and measurement of factors affecting marketing margins. Not only do they include the average margins taken at the several stages in marketing, but also the variation in margins between firms performing the same type of service, and the changes in margins over time. They question whether existing price data are satisfactory for the latter.

The other set of problems for which they suggest research is necessary is that of the effect on prices and margins of groups or firms exerting control through combination, integration, or scale. Here they emphasize the need for studying a whole range of problems and questions incident to producer control, exercised either through their own programs or aided by government, and those incident to control by marketers. These are challenging problems which will require a great deal of careful analytical investigation to answer even a part of them. The answers are needed in order that the groups and firms or the public may have an intelligent policy. This set of

problems is not peculiar to the marketing of horticultural products but to the marketing of any other farm products as well.

I believe the problems relative to effects of producer control are not as significant in central and eastern states as they are in the far west, but those incident to control by marketers prevail in all sections of the nation.

These authors did not intend that the two sets of problems suggested were the only problems requiring study or that they were the most important. They were suggested to indicate the types of studies which they believe will yield fruitful results. Therefore I cannot criticize them for not indicating more problems needing study. I'm sure they would agree with me that there are many, many more.

These three papers discuss the subject of research in their respective fields from somewhat different angles. In the main, Dr. MacLeod told us what he thought a good research program should be. Dr. Phillips stressed the need for much more research in practically all phases of livestock marketing, and that research agencies could be more fruitful if they cooperated in the task. Drs. Wellman and Mehren gave us two tests for evaluating research, and two sets of problems that require more study. All of them have given us much food for thought.

I was somewhat disappointed that none of these men suggested that we ought to set up experiments as one means of studying marketing. By an experiment I mean that if we want to test the consumer acceptance and the effect on price of a particular consumer package for apples, we should conduct an experiment in selling apples much as the agronomist does in testing the effect of given fertilizer applications on the yield of potatoes. In the main such experiments would have to be carried on in cooperation with a marketing firm or they might be expensive or unrealistic. While I recognize that this method is inappropriate in the study of many marketing problems, I suggest that in some circumstances it has merit.

The discussions of research in these papers are far superior to the discussions of education. One author pleaded ignorance, and the joint authors chose to eliminate educational programs from their paper entirely. Since these men are primarily research workers, I take it we expected too much when we asked them to include educational phases. I confess to as much ignorance as the authors. Perhaps we should leave education to the extension workers or take enough part in extension programs to be closely in touch with it.

I have no comment relative to the statements about education in these papers. There are two points, however, that I should like to make. One has to do with the relation between the level of prices and marketing. We are all aware of the popular complaints leveled at marketing subsequent to the decline in prices after World War I and in the early thirties. I grant that when prices fell the percentage of the consumer's dollar taken by marketing agencies increased, but in the main the margins in terms of dollars decreased. Therefore, in one sense at least, marketing was more efficient after prices fell. I suggest that one thing we should attempt in our educational work is to make it clear to the public that the low prices were due

to general economic forces and not to the inefficiency of the marketing system. This is not to say that marketing is as efficient as it can be, but I think we will perform a useful service if we make it clear that the marketing system is not responsible for all our economic ills.

The other point I put in the form of a question. Have we not neglected nonfarmers in our attempts to carry on education in the field of marketing? Certainly if we have anything that will improve marketing we ought to take it to those who do the marketing. If it is desirable that farmers understand a certain principle or follow a given marketing practice, isn't it just as desirable that handlers understand the same principle and follow the same practice? Perhaps we would not be remiss to spend more of our marketing educational resources on handlers and consumers than we spend on farmers.

POSTWAR EXTENSION PROBLEMS IN AGRICULTURAL MARKETING*

W. B. STOUT

U. S. Department of Agriculture

IN LIGHT of conditions which seem likely to prevail in the postwar period if production continues at present high levels it seems unreasonable to expect that American farmers will have a ready market for all the products they may have for sale, at present prices. In fact, we now have surpluses in some agricultural products and indications point to the need for reducing production of others in the years ahead. Then, as in past years, our major agricultural problems will center on the disposition and use of agricultural products and the prevention of burdensome surpluses. Emphasis will be placed on efficiency of operation rather than on total output and this will apply to the marketing process, as well as to production operations.

Before undertaking to discuss the problems that will confront the Extension Service in rendering full educational assistance in marketing to farm people, perhaps it may be well to indicate briefly some of the problems regarding which farm people will be in need of assistance. Supplying the needed information and assistance in connection with some of our future marketing problems will be simple because the problems themselves will be simple. Other problems will be much more difficult because they will deal with fundamental considerations and will require understanding of the basic principles of marketing and pricing.

Farm people as a group do not have a working knowledge of the various functions of marketing, the essential services that are performed through these functions, and the relative costs of such services. They see only the spread in prices between what the farmer gets for his products and what the consumer pays at retail. With no further information, it is only logical to expect that there may be criticism of our present systems of marketing and distribution which may or may not be justified. It is to the interest of farmers that their products be marketed just as economically and efficiently as possible, but they are not in the best position to assist with bringing about increased efficiency unless they understand

* A paper given at the annual meeting of the American Farm Economic Association, Chicago, December 27, 1945.

the cost of present market services and the contribution made by such services to the marketing process.

Closely related to the problem of services and costs is the problem of price relationships in the field of marketing. Our experience would seem to indicate that farmers in general have a much better conception of the relationship of price to supply than they have of price to consumption. Consequently the significance of such important influences on farm prices as full employment, a high national income, and the purchasing power of urban workers, is not always clear to them. They need to know more about how prices are made and how specific commodity prices are determined. This type of information is also fundamental to the understanding of governmental price policies. To bring about a better and more general understanding among farmers of price relationships will require both a more intensive and extensive use of outlook and market price information. Emphasis will need to be placed on more thorough analysis, better interpretation, and a broader dissemination of such information for the benefit of rural people.

The interpretation of market values and current prices of farm products has always been difficult for farmers to make. Through education much more attention must be given to the consideration of market prices and price relationships in the marketing process to make certain that products are sold on the market, kind and quality considered, where they will net the greatest returns to producers. Without the proper understanding and utilization of such information, products are *dumped* on the market, not *merchandised*.

If consumers, both urban and rural, had a better understanding of the relationship or lack of relationship between market prices and nutritional values of foods, the solution of some of our present problems in marketing and distribution would be made easier. Unfortunately available information on this subject is not widely understood. More intelligent buymanship would result if housewives were in a better position to recognize relative values of different foods from a market and nutritional standpoint. Consumers are also in need of additional information regarding the grades and quality standards that serve as a basis for trading and consumer protection, and how foods of different quality can be satisfactorily used. In those areas where a special informational service has been rendered to consumers regarding seasonal and

peak supplies of various foods, it has been learned that such foods have moved into consumption more readily and at higher prices than would have been the case otherwise. A large percentage of housewives would also be interested in learning more about marketing costs and in knowing what portion of their food dollars is actually expended for food and what portion of each dollar is absorbed in the payment for services in handling, packaging, wrapping, sales promotion, and other merchandising costs. Consumer education pertaining to fundamental information in marketing and distribution that affects their well-being is in its infancy and deserves much more emphasis in the future than it has received in the past.

In the development of a more efficient system of marketing and distribution, it will be necessary for producers in many areas to solve the problems of kind, quality, and volume in order to proceed with their marketing on a sound basis. In some instances this would seem to call for a further development of commercial production areas that can supply increased volume of high quality products. One of the most common and difficult problems encountered in the marketing of agricultural products results from unorganized or misguided production. Production activities should be coordinated with market demand so that we may know when to produce, how much to produce, and what kind, quality, and variety to produce.

Those areas that are now producing commodities in surplus of their local needs will find it necessary to proceed even further with grading and standardization programs to meet competition from other producing areas. Throughout the entire field of agricultural marketing there is a great need to better determine market demands and consumer preferences in order that we may better serve the buying public and net a greater return on the products sold. Such procedure makes possible adjustments and improvements in our marketing methods, through cutting cost and increasing efficiency. These are considerations of paramount importance.

Cooperative organizations have been a great help to farmers in the marketing of their products and in the purchasing of supplies. In fact, they have been a dominating factor in many rural areas in bringing about increased efficiency in this phase of the farm business. It is to be expected that farmers will demand the services of increased numbers of organizations of this type in the future.

Perhaps an even greater need will be that organizations of this type now functioning should be strengthened from the standpoint of their financial and operating positions. In either instance educational guidance is most essential in respect to pointing out the advantages and limitations of cooperatives, the determination of their economic need, the principles and philosophy of cooperation, procedure in organization and reorganization to meet specific needs, determination of financial requirements, membership relations, personnel relations and training, systems of records and accounts, and the development of efficient management, as well as other operating problems.

To enable us to solve some of our marketing problems, it will be necessary that additional facilities for the handling, storing, processing, and packaging of agricultural commodities be provided in many producing areas. Such facilities, however, must be constructed on the basis of known needs in relation to the size and kind of facilities and the location of the production area or areas they are to serve. Preliminary studies and thinking would indicate a growing need for facilities that will make possible the processing of more agricultural products at the point of production. This is especially true in connection with dehydration and the quick freeze process and possibly pre-packaging of fresh produce. Programs based upon public interest in marketing and distribution will stimulate local sentiment regarding the need for developments such as this, and, therefore, will be helpful in many communities in accomplishing the desired results.

We are also confronted with marketing problems that take the form of costly and detrimental trade barriers or tariffs between states. Such barriers add to the cost of distribution, because either the producer receives a lower price, or consumers must pay a higher price, in order that the barrier costs may be absorbed. Through the efforts of the Council of State Governments all states agreed not to enforce legislation on their statute books, for the duration of the war, pertaining to motor truck transportation, which create impediments to interstate trade. It is highly desirable that the concept of this type of agreement be broadened to include other types of trade barriers between states and be made permanent because marketing costs resulting from trade barriers between States are detrimental to producers and consumers alike. In the meantime they must be considered as one of our major marketing problems.

The solution of these problems are steps in the direction of developing better merchandising programs for agricultural products. While so progressing we should keep in mind our objective of lowering marketing and distribution costs through increased efficiency and developing new market outlets that will serve this end. Experience has shown that in the enthusiasm of doing a better job of marketing and distribution, producers and handlers of agricultural products are likely to supply services which add costs that are out of line with the values of such services. This does not mean that such services should never be provided, but their values in relation to costs should be carefully weighed in order that increased efficiency in distribution may be brought about.

These, then, are some of the marketing problems that will confront farmers in the postwar period. Some of them are old, and some will be new to extension workers in the various States. In most instances, farmers will need guidance, a great deal of educational guidance, in the solution of their marketing problems. Few problems have ever been solved without understanding. Understanding comes about through the learning process which we call education.

What then is Extension's opportunity and responsibility in the field of marketing? The answer is education; teaching through demonstration; helping people to develop themselves through learning, so that they may think clearly, analyze their problems correctly, and arrive at the proper solutions. The Extension Service has performed all these functions, and more, in many types of activity. But we have done relatively little in the field of marketing. Many of our extension marketing programs, both past and present, can be characterized as being specific in nature and limited in scope. In fact, we have been criticized, and perhaps rightly so, as being primarily a production educational agency interested in making two blades of grass grow where one grew before. Such criticism has not been directed for the purpose of belittling the importance of production. Not at all. Instead, its purpose has been to emphasize the fact that Extension has not discharged all its responsibilities to farmers with an equal degree of efficiency.

The record shows that the American farmer has made greater progress in his ability to produce during the past quarter of a century than in any similar period in the history of the world. He has used better methods and techniques. He has improved and

increased his production through the use of improved seeds and varieties and through better breeding and cultural practices. He has successfully combated pests and disease and has learned to cope with the elements. In all this Extension has had a part. But we must not fail to complete the picture. The American farmer has not advanced so rapidly in the solution of his marketing problems. If the Extension Service is to discharge completely its responsibilities to farmers in the field of education, our present program will need to be enlarged and rounded out in several respects. This process would include giving more emphasis to farm economics, which, of course, includes marketing.

In so doing at least one precaution should be emphasized. In conducting programs in the field of marketing, let us always hew to the line in our definition of education and confine our activities to this field for which we have been given responsibility through legislation. Let us clearly differentiate between educational activities and the performance of services. Whenever demonstrations or other teaching methods go beyond the point of imparting information they become a commercial service for which either a person or a group of persons should be willing to pay. Education is aimed at helping people to do things for themselves, whereas services consist of doing things for them. The former causes people to be self-reliant, while the latter makes them dependent upon someone else. The Extension Service is designed to work *with* farm people and their agencies, not *for* them. Through the years, it has not been uncommon for extension personnel to fail to make this important differentiation, and by pursuing the wrong course to become hopelessly entangled in situations over which they had no control.

Who then, in the Extension Service, has responsibilities to farmers in making sure that they are supplied with the proper information that will be helpful in solving their marketing problems? Obviously, the solution of these problems will be a much larger job than the State marketing specialists can handle alone. It is larger than the interests of the individual state, because the solution of many marketing problems must be approached on an area, regional, national, or even international basis. In fact marketing extension programs to be most successful require both marketing and production information, consumer information and education, and supervision and policy making. Viewed in this light it

becomes evident that extension marketing work should be coordinated and integrated with other extension programs in meeting the needs of farm people. This type of approach would require additional guidance and assistance of state directors of extension, their county agent supervisors, specialists, the county personnel, in fact, the entire extension staff, in developing a comprehensive and fully effective extension marketing program in the various states.

Because of these far-reaching implications in the field of marketing, and the importance of the work on which present conditions place emphasis, a Southern regional extension marketing conference was held at Memphis, Tennessee, November 21 to 23, 1944. It was attended by about 80 extension workers from the 13 Southern States. The group included most of the state directors of extension, a number of district agents, both men and women, almost all of the state marketing specialists, at least one subject-matter specialist from each state, several state home demonstration agents, and a goodly sprinkling of county agents. The purpose of the conference was to get the necessary coordinated approach that must be had if a better job was to be done of helping farmers in the South to market their products.

The conclusions arrived at by those in attendance at the conference were worded in part as follows:

"In an extension program, responsibility in the field of marketing and distribution cannot be directed to any division of personnel, but instead to all personnel from the county level to the state director's office. The responsibility, however, for instigating a more efficient marketing program is that of the director and the district agents. It is recognized that the county agent must be responsible for the marketing program on a county level to the same extent that he has been responsible for a county production program in the past. Leadership in all marketing activities within a state should rest with the marketing specialists who in turn shall have the cooperation of other subject-matter specialists and the guidance of district agents and the director. If a production and marketing program is to be successful it is absolutely essential that there be the closest cooperation between production and marketing specialists, and of supervisory groups. . . ."

It has been suggested that in making an approach of this kind it would prove very helpful if extension programs were carefully

studied, major problems outlined, and given a priority rating. With this background administrators, supervisors, specialists, and county workers can contribute to the development of plans and programs fitted to current and future needs of farm people. Furthermore, a carefully prepared analysis of the state situation and outlines of major marketing problems in the state can be used as guides for similar studies in the counties. Analyses of this kind deserve the best thinking and guidance that we are capable of rendering in Extension and should make use of assistance that can be obtained from farm leaders and others interested in our efforts. The approach should be broad in nature and include the thinking of representatives of other major subject matter fields as well as Extension supervision and administration. By so doing a foundation will be laid for expanding and intensifying marketing extension programs to meet the needs of producers and handlers of agricultural products. Furthermore, the work will then become an integrated part of a rounded out extension program rather than looked upon as a marketing project.

Sight should not be lost of the fact that in order to have an active and effective marketing educational program conducted through the Extension Service, much of the responsibility for such a program rests with the county agricultural agent and his assistants. It means that the work must be an organized program in the county and be conducted as other organized programs are conducted. In too many counties where the need exists, marketing has not been an organized part of the county agent's program. Annual reports bear conclusive evidence on this point. This statement should not be taken as an indictment of county agents. With their many responsibilities and heavy work loads they have performed remarkably well in discharging their duties to rural people. It does suggest, however, that if our objectives are to be reached and marketing educational work is to become an integral part of the county extension program, then additional assistance must be given to the agents in the counties. Such assistance has been made possible through the passage of the Bankhead-Flannigan Act, which specifies that the funds provided for in the Act shall be expended in part in providing technical and educational assistance to farm people for better marketing and distribution of farm products.

Providing capable assistant county agents to work on marketing

programs will not be a simple problem for Extension administrators to solve. Capable people with training in agricultural marketing, who can be hired at salaries being paid assistant county agents, are just not available at the present time. In fact, because of the lack of qualified personnel there are at present more vacancies in State marketing specialist positions in the United States than have ever existed at any one time. It would seem that before future needs can be met extensive training programs will be necessary. A part of this training will necessarily need to be formal in nature. Especially is this true if the person is preparing himself to become a leader in marketing extension work.

In spite of limited resources in the way of trained personnel, every effort must be made to obtain leaders in this field with a maximum amount of background, training and experience in the fundamentals of marketing if satisfactory progress is to be made. We cannot expect to develop strong and adequate marketing programs if reliance is placed in leaders whose training and experience has been entirely in the field of natural sciences, even though these same individuals have proved themselves to be outstanding leaders in other fields. Before such leadership would be satisfactory, additional formal training in marketing would be necessary. The experience, training, thinking and subject matter required for the one job are very different from those of the other. This is a consideration that in too many instances has not been too clearly recognized in selecting marketing personnel in the past.

But not all training required by the Extension Service in conducting an expanded and intensified marketing educational program will need to be of the formal type. In-service training can and should serve to good advantage in training assistant county agents in many phases of subject matter, as well as in extension methods. Training of this kind can be made most effective by the use of well planned, short, intensive, training courses that will train those in attendance to analyze, understand, and teach others how subject matter in marketing can be applied to local and area situations. Such courses would necessarily be followed periodically with other brief training periods which would deal with other aspects of subject matter and serve as refresher courses. The same procedure may be employed in teaching new workers methods of conducting extension work that have proven to be effective.

It will also be necessary that assistant county agents and their

marketing programs have adequate supervision by district supervisors and strong leadership by well-trained marketing extension specialists. This is essential if such programs are to be adapted to changing conditions and based on locally felt needs. Furthermore, it is imperative that marketing problems be anticipated well in advance of their occurrence if well designed programs are to be ready to meet the needs as they arise. Another point not so well recognized is that people frequently have needs in marketing of which they are not fully aware. To bring such needs to their attention is a further responsibility of Extension. This type of procedure would be a more fundamental approach to marketing extension work. It would prevent the development of many undesirable situations and thereby lessen the amount of time and effort now being expended in assisting with solving problems after they occur, and would permit more emphasis on basic improvements in the marketing process.

The foregoing should not be taken to mean that it is thought necessary or desirable that an assistant county agent should be employed in every agricultural county who would devote his full time to marketing. Such an assumption would be unsound, and, therefore, unjustifiable. Instead consideration should be given to the amount of emphasis that needs to be placed on marketing in each county in order to round out the county extension program and thereby meet the needs of farm people. Any number of arrangements may be made to accomplish this end. It is quite conceivable that in some counties where the marketing problems are quite extensive or acute it may be desirable to have an assistant agent devoting his full time to this type of work. In other instances it may require but a part of one man's time and perhaps a small part at that. In cases of this kind the assistant agent may be assigned other responsibilities in addition to the work he is to do in marketing. In fact, he may be assigned to the whole broad field of economics and rural sociology and have responsibilities for educational work in farm management, including farm planning, general economic and agricultural policy considerations, rural social problems, and marketing.

Some states in the past have followed the practice of employing assistant agents on what might be called an industry basis. In these cases the assistant agents are expected to render any kind of educational assistance necessary pertaining to a certain important

agricultural industry in their counties. The work in cases of this kind involves production, management, and marketing assistance. Other assistant agents may be employed in the same county on the same basis but their work would have to do with other industries. It is understood that a few states are considering still other procedures in rendering increased marketing assistance to farmers. These plans would involve employing an assistant agent in marketing who would work with more than one county agent in conducting his program. Such an arrangement might involve as many as four or five counties with the assistant agent having headquarters somewhere in the territory to be served and responsible to all county agents for assistance with their marketing problems.

Although other suggested procedures could be made along this line, perhaps enough has been said to indicate that a number of different approaches may be made that would accomplish the objective equally well. In the final analysis procedures should be adopted that best fit local and state situations. This in itself would indicate that there will be variations in county personnel organization based on the work to be done.

At least one other need exists which must be met before the Extension Service is in the best position to adequately expand its educational program in marketing. That need is for additional information, a part of which must be provided through additional fundamental research. It is true that much of the needed information is of such a character that it is readily available and easily collected if time permits. It may pertain to local conditions and situations that local agents or State specialists could obtain through the expenditure of a small amount of effort and time. To obtain other types of needed information would require the use of surveys or other quasi-research methods. In many instances this type of procedure has been used by extension personnel to good advantage and it is hoped that it will be continued in the future. Extension workers in marketing, however, for a long time have been in need of a great deal of information that can only be provided through the efforts of the research specialist. The type of research information referred to here would have to do with marketing systems, methods, operations, and costs. More attention needs to be given to labor efficiency and its utilization in processing and distribution. We need better consumer demand data as it applies to quantity and quality of products and as it is related to price. It would be

very helpful to have more comprehensive analyses of available market news, market movements, and production information so that such information could be better adapted to the needs of producers and handlers of farm products. Research will be needed in the determination of location and construction of new marketing and processing facilities that are long overdue, and others that new developments have made necessary. And, finally, it should not be overlooked that there is a continuous demand for the discovering of new uses for agricultural products and the need for providing new and additional market outlets for farm commodities farmers produce. Anyone familiar with the field of marketing education could expand the above examples of information needed to considerable length. In so doing perhaps additional lights would be shed on why many of our extension marketing programs have been rather limited in scope in the past.

These, then, are some of the problems in agricultural marketing that will confront Extension in the future. They present a challenge as well as a great opportunity to better serve American farmers. To meet the challenge will require the coordinated approach of our entire personnel. It will mean careful planning, concerted thought and untiring effort to reach the desired goal. Although a maximum increase of emphasis will be necessary if Extension is to meet its responsibility to rural people in this field, the results obtained should be well worth the effort involved.

POSTWAR EXTENSION PROBLEMS IN GENERAL AGRICULTURAL ECONOMICS*

GEORGE W. WESTCOTT
Massachusetts State College

THIS paper will be confined to a consideration of Extension postwar problems in the province of general agricultural economics, leaving the fields of farm management and marketing to my colleagues. A discussion of Extension problems would not measure up to its full possibilities, especially at this particular time, if these problems were not considered in the light of the *responsibilities* and *opportunities* which lie ahead in the Extension Service field in the immediate future. Therefore, this discussion will be treated entirely on the basis of adjustments needed in Extension organization and procedure if we are to measure up to our opportunities.

To say that Extension has broad responsibilities and opportunities for extending applied agricultural economics to farm people is obvious and has been repeated oftentimes before. The subject has been discussed many times at the meetings of the American Farm Economic Association and in the JOURNAL. These discussions, even though they may not adequately represent the development of Extension teaching, have reflected the changing scenes, the increasing emphasis on the broader economic problems with their continuously expanding social implications.

The first article on Extension teaching appeared in the second issue of the JOURNAL in September 1919. It dealt entirely in farm management demonstration work. The Association maintained a standing committee on Extension during the early 1920's and its annual reports were published in the JOURNAL. Although Extension in many states engaged in activities in the marketing field from its inception, it was not until 1923 that Extension marketing was mentioned by these committee reports in the JOURNAL. The committee continued to be primarily concerned with the accounting phase of farm management.

Although outlook work was undertaken by the Bureau of Agricultural Economics in 1923, it was not formally discussed in the

* A paper presented before the annual meeting of the American Farm Economic Association, Chicago, December 27, 1945.

JOURNAL from the standpoint of Extension procedure until 1928.¹ In fact it was not treated as such from the research standpoint until 1930 by Tolley.² In 1930 the annual meeting had a session devoted entirely to Extension teaching. Papers by Case, Arnold, Hart and Smith³ were confined to Farm Management. A paper by Youngblood discussed "The Integration of Research and Extension for Progressive Agricultural Adjustment," a much neglected subject in the literature. It was not until 1931 that land utilization in relation to Extension work was treated by Gilman.⁴

In 1932 the annual meeting again devoted another session to Extension teaching and for the first time general economic topics were treated as Extension subject matter in very excellent papers by Manchester, Rowe, and Arnold,⁵ papers which read as well today as 13 years ago. Again in 1936 and 1938 special Extension sessions were included on the annual meeting agenda. At the 1936 meetings the use of economic information in developing farm programs and adjusting farming systems was presented by Brehm, Dixon, Miller, Allbaugh and others.⁶ They discussed the application by farm people of economic information and principles as taught by the Extension Service.

In 1938, the session was devoted to Farm Management Extension but in a much broader sense than at previous meetings. The program included general topics such as: the place of farm finance in Farm Management Extension, the place of economic information in Farm Management Extension, Farm Management work with low income farmers, and the use of Farm Management information in developing agricultural programs.⁷

In 1939 the county agricultural planning project, embodying agricultural economic education in its broadest sense applied by means of the planning process, was considered at a section of the annual meeting. A decade of general distress and waste of economic

¹ C. F. Wells, "The Work of the States in Adapting Annual Federal Outlook Reports." Read at the second annual meeting of the Western Society of Farm Economics, this JOURNAL, Vol. X, No. 4, p. 534, October 1928.

² H. R. Tolley, "Research in Local and National Outlook Work." Read at the fourth annual meeting of the Western Farm Economics Association, this JOURNAL, Vol. XII, No. 4, p. 588, October 1930.

³ See this JOURNAL, Vol. XIII, No. 1.

⁴ Virgil Gilman, "Extension Work in Relation to Land Utilization." Read at the fifth annual meeting of the Western Farm Economics Association. Vol. XIII, No. 4, p. 605, October 1931.

⁵ See this JOURNAL, Vol. XV, No. 1.

⁶ See this JOURNAL, Vol. XIX, No. 1.

⁷ See this JOURNAL, Vol. XXI, No. 1.

resources had truly made its impression in the field of Agricultural Economics Extension.

During the last five years papers on the Extension phase of Agricultural Economics have been conspicuous by their absence from the JOURNAL. Although it might be contended that the treatment of Agricultural Economics Extension work in the JOURNAL during these past 25 years does not sufficiently represent the effort that has been expended, it must be admitted that a survey of the literature does provide a revealing and fair index of the trends, the unfolding of the economic problems of the farmer and his industry, —and the evolvement of agricultural economics and its application to the agricultural industry through the Extension Service.

During the interim of the War, Extension Economists and field agents have rendered yeoman service to the nation's farmers by explaining the need for food, interpreting economic controls and regulations, assisting farmers in the procurement of labor and supplies, and helping them to solve their endless difficulties in war-time management. It is not derogatory to the Extension members of our profession to suggest that under the pressures of war, constructive thought regarding our future course has been inadequate. If the American Farm Economic Association is to continue to reflect the trends in Extension problems and methods, it is extremely timely that we should discuss our problems again at this meeting.

It is not new to state that the task of the farmer and the farm community in making adjustments to environment is growing with the ever-increasing tempo of social behavior. Technological developments are speeding up the shifting of the scenes on our socio-economic stage with such breath-taking rapidity that those who are not sensitive to these dynamic forces are soon lost in the scenery.

One only has to review the history of American agriculture during the past 325 years to vividly appreciate the shifting of these socio-economic scenes. Many of these shifts have created shocks which have uprooted and completely changed the complexion of one area after another. A study of rural life on the European Continent provides a story of even greater change though the shifts moved more slowly.

The last 25 years in many ways have created more changes than were witnessed during the first 300 years of American agrarian

history. Prior to the twentieth century it would have required several hundred years to have created the epoch-making historical events of the last six years. In fact, it may be contended that we have witnessed more major scientific and political history-making events during 1945 than occurred during any previous hundred-year period.

The magnitude of this war was at least 10 times that of World War I. We shifted over to a war economy whereby two-thirds of our greatly expanded national effort was devoted to War. During World War I, less than one-fifth of our total national effort was consigned to war and yet that created tremendous shocks to our economy,—shocks that carried over the next twenty years and helped to lead us directly into World War II which was so much greater than World War I that it is futile to make comparisons.

This ever-increasing tempo is basically the cumulative result of technology. This has the inevitable result of drawing the people of the world together into larger and larger communities of interest and action which results in mass movements, mass production, and mass wars. Mass actions cause mass reactions which in turn calls for mass adjustments and mass readjustments. This demands quick and sound thinking on the part of individuals as individuals if they are to make individual adjustments which will enable them to keep in the middle of the economic stream rather than being pushed into the backwaters. And it calls for quick and sound thinking on the part of individuals if they, as groups, are to formulate world opinion wisely as a basis for making mass adjustments.

The responsibility for providing an adequate informational background and for helping people to understand the significance of their decisions is indeed great and calls for the combined efforts of all educational organizations and agencies.

The role of the farmer in the coming era, (which may be characterized by atomic energy), and the educational responsibility of the Land-Grant College system and specifically the Extension Service in the field of economics and sociology was admirably set forth by the Committee on Postwar Agricultural Policy of the Association of Land-Grant Colleges and Universities in their report on Post-War Agricultural Policy (October 1944). During the summer of 1945, a Committee of State and Federal Extension Economists and Sociologists, recognizing the enlarged opportunities and responsibilities which would be dropped on our doorstep

with the ending of military hostilities, prepared a statement which was released in September.⁸ This statement was, in several respects, related back to the Land-Grant College report. In fact, its preface was quoted from the Land-Grant College report as follows:

"Farm people, anxious to promote conditions favorable to themselves and to play their part as good citizens, must look far beyond their line fences and their local communities. Their welfare will be favorably or adversely affected . . . by policies followed by various farm groups and nonfarm groups. . . . It is not the function of educators . . . to determine what agricultural policies should be adopted. That is the responsibility of the Nation's citizens. Our task is to supply the essential facts affecting farm policy. . . . It is our hope that men and women on farms and in the cities will . . . reach decisions which will cause Americans 10, 20, and 50 years hence to say that they reasoned well and acted wisely'."

"In these words the Land-Grant College Committee set forth the responsibility of educators in general and Extension workers in particular in seeing that rural people are fully informed on the choices that must be faced."

In addition to this Committee report, a document entitled "Educational Activities of the Land-Grant Colleges and the United States Department of Agriculture Relating to Public Problems Affecting Agriculture" has been adopted as a guiding policy for the Department, and sets forth the following expression which again clearly and forcefully states the problem before us:

"All problems of a social and economic nature have at least one characteristic in common; there is no one exact and final solution but rather a choice of alternatives. The task then becomes one of analyzing these alternatives and their immediate and longtime consequences. Judgments cannot be made wisely unless the pros and cons of various solutions are adequately presented for consideration and the relevant facts made known to those who collectively must make the decisions.

"At present, rural people are not getting all of the facts nor the analyses they need in respect to many matters of public concern. Research in the Land-Grant Colleges and in the United States Department of Agriculture has not given enough attention to the analysis of the economic and social consequences of proposed pro-

⁸ "A Preview of Tomorrow's Educational Problems in Agricultural Economics and Rural Sociology," U.S.D.A. mimeograph.

grams and policies. Even more important, the Extension Services (especially the county Extension agents) are not now in a position to bring to farmers even the information that is currently made available. The challenge these agencies and institutions face is to strengthen their research on questions of public policy and to find more effective ways to get the results of such work evidenced in a better informed citizenry."

General economic Extension work deals largely with phenomena that originate outside the farmers' line fences. Some of it is complex. Much of it is controversial. But this does not excuse the farmer from making decisions based on economic facts and inferences,—decisions applied to the internal management of his own business, and decisions applied to the social problems of the community, the state, the nation or the world. Since group action becomes more and more prominent with technological developments, increasing productivity, and higher living standards, then the farmer's role in formulating group decisions becomes relatively more important. This we commonly term policy making. And thus the challenge comes right back to us,—the formulation of sound coordinated rural policies rests squarely on the foundation of education.

A further point, not always recognized, is that people frequently have needs of which they are not fully aware. To bring such needs to the attention of rural people through education is a further responsibility of Extension.

Since general economic subject matter often deals with controversial issues, the question frequently arises as to whether they should be included or omitted from educational programs. The answer does not depend on whether or not the issues are controversial but whether they are important. In other words, controversy is no criterion for judging the admissibility of subject matter. Extension workers need not be propagandists; in fact, they must not be if they are to be true educators. Extension workers must present relevant facts, based on past and present behavior, and stimulate thought by objectively presenting all analyses and logic, both pro and con, which can be deduced from the factual behavior of the past and present.

Too often Extension Economists have been guilty of violating pedagogical principles by (1) presenting only conclusions on one side of the issue without any facts, (2) by presenting the facts

followed by conclusions on only one side of the issue and (3) presenting only the facts. The first and second transgressions are serious indeed for they provide the answers, leaving nothing for the pupil to do. The Extension specialist does the thinking for the farmer. This approach is entirely void of thought stimulation. The third case falls short of the mark inasmuch as the teacher should go further by presenting pros and cons or better still, by drawing them out of his pupils. And at this point, may it be suggested that we have often fallen short of our opportunities by way of the second violation, especially in our outlook work. We have presented the factual background and our conclusions as to, say, a dismal outlook without going on to present alternative policies which, if followed, might develop a more favorable outlook. That is, if we predict that the outlook is for a depression without going on and presenting the reasoning and suggestions of those who believe that a depression could be avoided, we have hardly exhausted our opportunities. We have not challenged thinking. We are often guilty on this count when discussing competitive relationships within agriculture. If we do not make this last step, we do not challenge our farmers as to their opportunities through greater production and marketing efficiency.

The scope of the field of general economics Extension could be illustrated with various types of subject matter outlines ad infinitum. At this point it is irrelevant to consider what might be the best organization of our material. Last summer our Extension Committee, in suggesting the major fields and topical subject matter, again referred to the Land Grant College Committee Report on Postwar Agricultural Policy and adopted their outline for their six main fields as follows:

1. *General Welfare*—which includes the relation of agricultural to industrial prosperity, wage policies, fiscal policies, international trade, minimum levels of living, trade restrictions, etc.

2. *Agricultural Prices*—which includes such sub-topics as price relationships, parity concepts, and methods of price and income support.

3. *Agricultural Production and Marketing Adjustments*—including such subtopics as the impact of technological developments, interregional competition, area planning, production control, and commodity storage programs.

4. *Land Use and Conservation*—which embraces such subjects

as land classification, zoning, conservation and land development policies.

5. *Rural Living and Social Facilities*—which takes into account such topics as roads, schools, health facilities, rural electricity and local government administration, and

6. *Tenure Credit, Labor, and Security*

Our committee used this particular breakdown not because it may be any more logical and adequate than numerous other outlines that might have been adopted but because it has considerable merit, at least for the immediate future, inasmuch as it suggests the use of the Land-Grant College report in general economics Extension work.

Assuming a proper appreciation of the opportunities and responsibilities for general economics Extension work with farm people, we next consider adjustments which must be made in Extension techniques and organization if we are to measure up to these opportunities and responsibilities of the future.

The Bankhead-Flannagan Act was approved June 6, 1945. This provides the authorization for eventual potential increases in Extension funds that could result in an expansion amounting to over 70 percent of the present organization during the next five years. This is encouraging but it does not answer the question of needed adjustments.

The Bankhead-Flannagan Act carries the proviso that 89 percent of the additional funds must be spent for work at the county level. It emphasizes giving technical and educational assistance to farm people in improving their standards of living; better marketing and distribution of farm products; work with rural youth and older out-of-school youth; and the guidance of farm people in improving farm and home buildings.

These provisos still do not provide the answers. We generally appreciate the need for more Extension agents at the county level and we would probably agree that Extension work should be expanded evenly with a balanced program along agricultural, home and junior lines. There no doubt will be considerable differences of opinion as to how much social and economic subject matter should be increased for proper balance. It is not the purpose of this paper to labor on the question of how much of a shift we should make. The evidence points overwhelmingly to the need for more emphasis in the social sciences; and Extension administrators are, by and

large, sympathetic with this viewpoint. This calls to our attention the question of personnel which will be discussed presently.

There is little disagreement as to the need for expansion at the county level. However, we must remember that if we are to employ the most efficient teaching aids, many of which have developed out of the wartime training programs, additional resources will be needed at the state level. We have only begun to use the known techniques for presenting economic and social subject matter in printed form readily acceptable for the masses.

We are just beginning to discover that economic and social phenomena lend themselves to objective presentation through the employment of color and design in printed materials and by means of movies. It should be stressed that our material can be objective and stimulating with the pros and cons logically presented and with no qualitative depreciation as compared with the commonplace printed page. There is no economic topic of popular significance, no matter how complex or controversial, that cannot be presented on the screen in sound and color by employing documentary film techniques. If it is to be educational, however, it is necessary to present both pros and cons rather than one idea as has been associated with documentary films in the past.

Extension has probably been relatively slow in adopting up-to-the-minute techniques because of limited budgets and government regulations. The employment of these modern techniques is expensive in absolute terms, but efficient when considered in the light of their educational value.

It is obvious that if we are to realize the future needs and opportunities for subject matter, far more coordination and collaboration will be required than ever before at the state level between resident teachers, research workers, and Extension teachers in the social and economic sciences, together with those who are skilled in the art of presentation.

We have learned a great deal about the effective teaching of social science phenomena with groups in recent years. General economic subject matter can be most effectively taught by the use of informal group discussion for small groups up to 30 or 40. For larger groups the panel discussion method should be used.

In preparing material for a group discussion, the topic should be broken down into 5 to 10 subtopics or questions. A carefully worded statement of about 400 words (4 minutes) or less should be pre-

pared on each subtopic setting forth the facts regarding present situations or policies and proposed policies or programs, with the pros and cons carefully stated. A brief, concise digest of the topic should be prepared and sent to the participants prior to the meeting.

At the meeting a copy of each prepared subtopic statement should be placed in the hands of each one present. For each statement, a person should be chosen beforehand who will read or present it orally at the call of the chairman. This gets the facts before the group with the minimum of time and without speeches by experts. Ten to twenty minutes should be provided for the discussion of thought-provoking questions that may be listed at the bottom of each subtopic statements. This may be supplemented with appropriate case material by the leader. Each subtopic discussion should be summarized before going on to the next subtopic.

The discussion should be free and frank. The leader should see that both sides of the question are clearly brought out. All subject matter prepared by the specialist must be unbiased. Topics of public interest should be discussed when timely but before public opinion has been crystallized.

This may sound commonplace, but the discussion technique, though more effective than talks, is much more difficult for the Extension worker. Most Extension workers still prefer to get up and give out the answers. Each step enumerated in this process has been made advisedly. These suggestions have proved to be successful methodology. Although they permit and even, it might be added, connote flexibility to suit the occasion, each point is a pertinent link in the process of conducting educational work in the social sciences with laymen.

Of course, not all occasions lend themselves to discussion techniques. Every opportunity should be used to present general economic subjects at farm group meetings of all kinds and especially in conjunction with Extension meetings called primarily for the discussion of production techniques. Obviously in such instances, economic subjects necessarily have to be presented more or less as formal talks even though this type of teaching is less effective than group discussion.

Little needs to be said about the use of radio and probably television in the not-too-far-distant future,—except to point out that we have not integrated our radio closely enough with other

methods. We have not kept the farm public fully informed of our regular radio calendars by mail and through the press. Television will offer many possibilities for more effective teaching, but it will present many perplexing and difficult problems to tax our imaginations.

The ultimate limitation in every field of endeavor is personnel. It is no less true in Extension Economics than elsewhere. Personnel problems at the state level in the immediate future may be more qualitative than quantitative. Past criticism directed at Extension Economists has, more often than we like to admit, been colored with truth. Too often our projects have been promotional or even propagandistic in nature.

More departmental and subject matter integration between resident teachers, research workers and Extension specialists is improving the quality of Extension teaching, but we still fall short of our potentialities.

There is still much to be desired in many states with respect to periodic leaves for professional improvement, which is essential in the social science field. But even where professional improvement leaves are liberal, there are many who fail to avail themselves of the opportunities. The mental discipline required of Extension workers is less rigorous than for research workers. Furthermore, because of irregular schedules and our daily contact with mundane affairs, we can easily develop laxness with respect to subject matter. It may be logically contended that required periodic professional improvement for the Extension worker is even more pertinent than for the resident teacher or research worker.

A factor which has militated against professional improvement study for Extension Economists is that graduate study has not been adequately adapted to their needs. This shortcoming was very clearly recognized by Schultz and Witt in their report on Training and Recruiting of Personnel in the Rural Social Studies⁹ as follows:

"In the past, programs of graduate study, the selection of candidates for advanced work, and the general orientation of personnel training and recruiting have all been focused toward better training in research—for example, the fellowship plan of the Social Science Research Council 1928 to 1933. With the Extension Services need-

⁹ *Training and Recruiting of Personnel in the Rural Social Studies*, a report prepared by the Committee on Rural Social Studies of the American Council on Education, by Theodore W. Schultz assisted by Lawrence W. Witt, American Council on Education, Washington, 1941.

ing more and better personnel trained in the social sciences, it becomes necessary to reconsider the nature and scope of graduate training—not that there is a necessary conflict in interest between research and Extension, but rather a difference of emphasis. Account must be taken of the differences in training required for a man who decides to prepare for a career in the Extension Service. The Extension worker comes into closer contact with planning in all its aspects than does the individual who concentrates on research.”

The Extension personnel problem for work in the social sciences is found to be most acute at the county level. A great deal of effort has been directed towards strengthening undergraduate agricultural courses in economics and sociology during the past 15 years but it is disheartening to have to admit that there is little if any more appreciation of socio-economic problems among the younger generation of Extension field agents than among their elders. In fact, the interest and attention which has developed with maturity among many of the older field agents is extremely encouraging. They have, through outlook work and intensive training short courses, become fairly well-qualified leaders for educational work in our field.

Apparently we have not yet achieved the techniques in undergraduate training for developing philosophically-minded Extension leaders with broad vision. Perhaps we are expecting too much from the undergraduate and should concentrate our attention on the graduate. One suggestion strongly recommended is that of establishing Extension apprenticeships cooperatively between the Extension Services and the Departments of Agricultural Economics for one or two year periods. Candidates for these assistantships might be outstanding majors in the technical undergraduate fields. During this apprenticeship period, not only would the candidate become familiar with Extension methods, he would have a chance to become acquainted with the literature and contemporary problems in the social sciences while undergoing intensive discipline in graduate courses in Agricultural Economics. These apprenticeships could then be followed with assistantships as field agents before advancing into full field agents. There are many other aspects of the personnel problem which need not be treated here because of their obviousness. All suggestions for strengthening personnel must be predicated on reasonable salary schedules.

Expansion in the field must provide for more attention to the social sciences. The solutions will vary from county to county. In some cases funds may be used for employing assistant county agents to work on specific problems in economics and sociology. In other counties, assistant county agents may release the time of agents already on the job for more work on social and economic problems. In some areas two or more counties with special crop or land use problems may employ an area field agent to conduct educational programs relating to the economics of these specialties.

Little has been said here regarding the function of the Extension Service in socio-economic planning. The Land-Grant College Committee in their Postwar Agricultural Policy report came out emphatically in favor of rural policy-making as a function of farm people. The role of decision-making is strictly a function of farm people, but the process, *ipso facto*, is essentially an educational process, so that it may be clearly an Extension function to service a system of rural-policy committees as outlined in the Land-Grant College Committee report.

Where Extension does sponsor and service rural policy committees, the discussion of general economic subjects may logically be integrated with the policy-determining work of the committees. Obviously it is necessary for policy committees to discuss their subjects objectively before they are ready to make sound decisions. The discussion technique previously treated herein is fittingly satisfactory for use with such committees. But again it should be emphasized that the policy decisions must be those of the committees and not of Extension workers.

It is entirely ethical that rural policy committees engage the assistance of the Extension Service in sponsoring group discussions among lay people at the community level and may solicit local opinions on public policy. This is particularly applicable to topics that lend themselves to state and local interpretation and application.

In conclusion let us remind ourselves that the ever-increasing tempo of social dynamics, through technological advancement and resulting in undreamed of potential productivity, which up to now has only been applied by a relatively small sector of the world's population, has suddenly and abruptly brought us to the threshold of an explosive era, figuratively as well as literally. The stakes are infinite. Civilization itself is on the spot. Education, thinking, and

organization in the social field have not kept pace with physical advancement.

It may be true that an enlightened agricultural public and its leadership cannot alone "save" the nation or the world. But that does not excuse agriculture from assuming its share of responsibility in developing social and economic policies for the nation. It is only with all groups,—agriculture, labor, and industry,—working together that we can hope to achieve national economic and social statesmanship which will insure the realization of a stable productive worldwide peacetime economy which is now within our reach. There are those who believe it *can* be done and I am inclined to agree with that group. Whether or not it *will* be done depends upon the future job which educational agencies do in providing educational facilities to the citizens of this nation for studying, discussing, and advancing their thinking in the social and economic sciences.

POSTWAR EXTENSION PROBLEMS IN FARM MANAGEMENT*

CARL MALONE

Iowa State College

AS THE Agricultural Extension Service turns its attention from the problems of war to those of peace, it is well to re-examine its program in agricultural economics and the facilities it has for carrying that program to rural people. Extension economists and farm management specialists, as well as others, must constantly be alert to new educational opportunities about them. It is much easier for us to carry on the usual and traditional kinds of educational programs rather than to move out into new and less familiar fields. Many things discussed in this conference or elsewhere in recent months suggest possibilities to all of us.

My assignment is the general field of farm management. In what I have to say, I will use the term farm management in a broad setting. Nor will I be overly careful as to its boundary lines since no sharp lines of demarcation set off the problems that lie within the farmer's fence lines and those that are outside.

Perhaps I should state at the beginning what seems to me to be the three purposes of economic education. First it should help people make, as nearly as possible, the optimum use of our economic resources so that we may have the rising level of material well-being that new discoveries permit. Second it should help us make the changes necessary to keep the economic machine in adjustment so as to minimize the tendency towards booms and depressions in an industrial economy. Third, and sometimes overlooked, it should deal with the problem of narrowing the income gap among workers in society by seeing that each individual has full opportunity and adequate incentives to develop his potential capacity. The latter point, it seems to me, is of special importance to farm people.

The educational needs of farmers in their role as entrepreneurs is a larger problem in total than many realize. Of the some nine and three-fourths million persons listed by the census as employers and "own account" workers, well over half are farm operators. Few of these operators have had much opportunity to receive formal train-

* A paper presented before the annual meeting of the American Farm Economic Association, Chicago, December, 27, 1945.

ing to help them understand better their managerial role. Even those who get formal training find that only a limited amount of that training is directed toward the managerial aspects of their occupation. Agricultural courses in the Land Grant Colleges are still largely directed to the production problems of farmers rather than to their economic ones.

Much of the responsibility for the economic education of rural people is in the hands of the Extension Service. Historically, economic education has played something of a minor role in Extension programs. The following data taken from annual summaries of the Federal Extension Service illustrate this point.

PROPORTION OF TIME SPENT ON MAJOR SUBJECT MATTER FIELDS
BY EXTENSION FIELD STAFF AND SPECIALISTS*

Subject Matter Field	Average amount of time spent during		
	1925-27	1933-35	1942-44
Farm Production	70.6%	66.5%	47.0%
Family Living	24.2%	23.6%	37.4%
Agricultural Economics	5.2%	9.9%	15.6%

* Organization and planning, community development and miscellaneous omitted.

As shown above, production and family living problems of the farm family still absorb well over four-fifths of the time spent by extension workers on subject matter education. The troubled years of the twenties found little attention being given to economic problems. But the depression of the thirties had its effect, and the demand for economic education is increasing.

It seems likely that this trend will continue. For, as soon as relief demands are filled and stocks accumulate, difficult economic problems for farmers are likely to be with us again. Few expect any lack of sufficient output of farm products in this country during the next decade at least. But nearly all students of the problem fear that farm output may chronically tend to exceed market demand at prices that are acceptable to farmers. For some products, absolute surpluses are in prospect under the likely conditions of foreign purchasing power and international trade.

It seems likely that farmers will demand that Extension give relatively more attention to economic problems and proportionately less to the problems of production that have held their inter-

est during the war period. Extension should be sensitive to this changing interest and plan its programs accordingly.

This need of looking ahead is of special importance in planning educational programs. It is my observation that if education is to be effective, any except emergency programs need to be planned and carried to the people a full two years before the people must make their decisions. We all have a considerable time lag between our thinking about a problem, making plans, and action. Education can be effective in a given case only if it provides the necessary facts before decisions have been reached and commitments made. With economic and social problems, education needs to be conducted before discussion reaches the political stage where public policies are involved.

The possibility of limited markets for farm products poses something of a dilemma in the educational program of the farm management specialist. For as Black and Hyson have shown, when foreign markets are not freely available for our agricultural products, any increase in production is fully offset in farm income except through subsidies.¹ Unless we can freely export our excess production, educational help for farmers that tends to increase output will be of little avail in improving incomes for farmers as a group. It is true that individual farmers who are able to make improvements more rapidly than others can raise their relative income position. But where limited markets prevail, farm management workers find little incentive to carry on a broad, aggressive educational program designed to increase income, for the usual result of such help to farmers is to increase output.

The possibilities of lowering costs should be explored as a method of increasing the individual farmers' income. And a good many things can be done in this direction. I know of one state where the farm management specialists believe they have designed a farm organization plan adaptable to many farms that does not increase output per farm but does increase net income by materially reducing costs. Under conditions of limited demand, there is a premium for such ideas.

The most common method of lowering costs is to reduce labor costs by the substitution of capital for labor. Where used, this often displaces labor from the farm. But, unless there is room to readily shift the extra labor to non-farm occupations, we are again in dif-

¹ *Economic Reconstruction*, Seymour E. Harris, Editor, pp. 47-49.

ficulty. Since most farm labor is provided by the farmer and his family, there will be little gain to the family if their increased use of capital and greater labor efficiency results mostly in idleness. Usually the size of operation including the acreage operated must be enlarged where capital is increased. This is not to say that the hours of labor per worker might not well be reduced to the benefit of all. But farmers are often more concerned with the income effects of the changes being considered than with the effects on the hours of labor.

In the more specialized areas where a good deal of labor is hired, teaching methods of increasing labor efficiency and ways of substituting capital for labor are more promising. Such improvements should reduce the cash costs of production and result in real gains in income even without an increase or possibly with a decrease in output. But here again, the question of a job for displaced workers cannot be dismissed as a problem wholly outside of agriculture. Yet, opportunities for gains in efficiency of this kind will be welcomed by farm management specialists as a possibility for helping farm families increase their income.

Nevertheless, we must continually stress the point that a satisfactory income for farmers as a group depends more on having healthy conditions in the economy as a whole than it does on conditions within agriculture. The opposite idea persists rather strongly among many farmers. And occasionally it is promoted by some who either do not know any better or do not care to understand the true causes of higher farm income.

Extension economists in many states must deal daily with the problems that arise in areas where farmers need to make major changes in the organization and operation of their farms to improve their income even under the best of economic conditions in the general economy. Farm families must somehow come to understand that their own productivity must be increased where it is too low to provide a reasonable income. Far too many believe that price and cost relationships somehow can be so adjusted that their income problem will be solved without requiring any considerable change by themselves. And, as educators, we delude these people unless we make clear that their individual productivity must reach a favorable level if they are to have a satisfactory income.

We are all aware of the need for narrowing the range of productivity—by raising that of the less productive farmers—both be-

tween farming areas and among different farmers in the same area. Where productivity is low, farmers need to understand that they will have to use more capital to help them increase their output before permanent gains in family income can be secured. As an example of the wide range in productivity and income the rough approximation shown below for two adjacent areas illustrates the problem.

CAPITAL, INCOME AND EXPENSES PER FARM WORKER
1942-43 VALUES AND PRICES

Item	5 Corn Belt States	6 South Central States	Percent Corn Belt of South Central
<i>Capital</i>			
Land and Buildings	\$8390	\$1820	460
Productive Livestock	1140	176	650
Power, Machinery etc.	950	270	350
<i>Income and Expenses</i>			
Gross Income	\$3602	\$ 986	365
Production Expenses	1715	346	495
Net Income	1887	640	295

Derived from B.A.E. and Census data.

Few would say that Corn Belt farm income is higher than farm families need under normal price conditions to provide a reasonable level of living. If this is true, the problem of raising productivity in the area to the south is doubtless very great indeed. It should be obvious that no one can have an acceptable American level of living on a gross farm income under \$1000 per worker.

In the cotton area, progress in raising productivity was necessarily slow with the technology of the past. But now that mechanization for this area is possible, more rapid progress can be made. But the educational problem of re-organizing farming to take advantage of this new technology is very great indeed. The past tendency has been for farmers to think mainly in terms of price. We will be of little help to these people if they fail to see that neither parity prices nor parity income on any historic base can do much to solve their income problem. Most farm people in the area are members of farm families rather than hired workers. This means that as capital comes in many families must shift to other areas or occupations.

Clearly, here are educational problems big enough to challenge

farm management specialists throughout the cotton area for many years to come; this, to say nothing of the educational and economic problems involved in the employment and training of the displaced workers as well as the social problems involved. Some may shrink from these tasks. Yet, we must have vision enough to see in this improving technology the possibilities of a more adequate income and carry that vision to farm people. Not that all will gain in the short run, for many people will suffer even lower incomes, at least temporarily, as more capital is used. We must not lose sight of the practical problems to be faced but must also keep our vision of the possibility of better income in the future.

In the tobacco area, in some of the dairy areas, and in other parts of our agricultural economy we do not yet have any such hopeful solution in sight. While productivity in all areas can be increased, the possibility of the substantial increases that are often needed may not yet be on the horizon for these groups of farmers.

At the moment, the improved income brought on by the war has raised the hopes of thousands of less productive families that the solution to their income problem is at hand. In view of the kind of changes necessary for a real solution, we need not be surprised if many of the proposals that are or soon will be offered do not strike a responsive chord. Extension workers will need courage to deal with these problems aggressively. We are likely to have a better reception for our suggestions if we make it very clear that our function is to point out the means of solution and the choices that exist but that we do not expect to dictate which of the choices should finally be followed nor the method of getting the job done.

In higher income areas, Extension economists have a tendency to overlook the wide range of income that exists and sometimes neglect those in the lower income strata. Too often, I suspect, an objective examination of the use of extension resources would find an undue share going to those already in a better economic position. The philosophy that education should be both free and equal is not always borne out in practice. In fact, if my original objective is correct, education should be deliberately slanted toward those in greatest need of it. So we might do well to look more closely at the area within our own responsibility to see whether we are giving adequate attention to the lower half of the farm income group. As I suggested earlier, it does not seem likely that there is immediate need for greater total farm output. Rather the need is for raising

the productivity and income of those who do not have a satisfactory level of living.

In other areas, problems of quite a different nature exist. In the better land areas of the Corn Belt, for example, there is a noticeable trend toward the two- or three-man farming unit, an operator and one or two steady hired men. We have little evidence as yet that there is any real economic gain in such a shift. That is, there may be little or no gain if family operated farms have their resources well organized and if adequate educational help is available that is fitted to their managerial and production problems.

The upward shift in size may be largely due to certain operators having a "head start." They are men who have benefited by having earlier access to new ideas, by certain institutional arrangements such as more adequate and lower cost credit, by the fact that the larger sizes of mechanized equipment were developed first, because of the tendency to low wages for hired workers and because government subsidy payments often favored the larger operator. The pressure toward more acres is accentuated by the large number of 160 acre units in an area where this size is increasingly becoming obsolete. We are not yet ready for the intensification needed to make 160 acres into a two man unit and this size is larger than one man can well handle alone. Consolidation results in an upward trend in size. Further there seems little doubt that many research results and educational techniques tend to favor the larger operator rather than the smaller operator or the beginning farmer.

It is my observation that once the size of farm has been adjusted upward within the range of size I am discussing, there is little tendency for it to shrink even in cases where it is obviously too large for the most economic returns. The reasons seem largely due to considerations of prestige or the personal satisfaction that comes from directing a larger scale operation. Thus it is likely that if this tendency to larger units becomes general, it will persist for a considerable period of time.

One question then is; how much real economic gain is to be had by shifting farm size in this direction in the central Corn Belt? Even if there is some economic gain, the question is not a closed one. For farm people will want to consider the social as well as the economic effects if such a system is generally used. Thus far, extension economists have carried on little discussion of this kind. It may be that this is due primarily to the lack of adequate research in this field.

Perhaps it is incorrect to say that little discussion has taken place. But most of it has been on a different level, being related to the relative merits of a sort of self-sufficient farming system favored by the agrarians as contrasted with the larger scale operations favored by some economists. This, I submit, is not the problem now being raised in the better land areas of the middle west and perhaps elsewhere. Rather the question is of the economic and social merits of a farming pattern made up largely of family sized economic units as contrasted with a pattern of larger family farms using a good deal of steady hired labor. If the latter eventuates, a smaller proportion of families will be farm operators than at present and a larger proportion will be hired workers.

In the more specialized farming areas where many hired workers now are and will continue to be a regular part of the farming pattern, the Extension service needs to broaden its program to take these workers more into account. There is little doubt that part of the economic advantage enjoyed by farm operators in such areas is due to low wage rates, poor working and living conditions, and other means of exploiting these workers. These workers have little protection through organizations of their own. They possess inadequate information about employment opportunities elsewhere and lack training in ways of making their labor more productive. Thus there is little chance for them to break away from what too often develops into a vicious circle. During the war the labor shortage has done much to improve the situation. But with the return of lower prices and a more plentiful labor supply, the tendency will be to go back to the old ways.

Extension workers will need a good deal of courage and diplomacy to tackle this problem by providing the educational information that is needed. They also work with the farm operators who hire these workers by providing them with technical and economic information. Many such operators, who are interested in having Extension's help in job training methods and other techniques for teaching increased skills, resist the idea of passing on much of the resulting gains as higher wages. Yet, if Extension workers are to fulfill their responsibility, they must carry on an adequate educational program for both operators and workers. It must be handled in such a way that the economic gains can be properly distributed instead of going largely to operators who are in the stronger bargaining position.

There is another difficult problem with which we must deal through education on a larger scale than at present. It is the housing of farm families. This problem has many ramifications. No ready-made solution is available or could be used in all areas or even among all families in the same area if such was at hand. In lower income areas, an increase in the size of farm and productivity per worker must come before it will be possible to have much improvement in housing unless it is on a subsidized basis. This is not to say that nothing can be done even in these areas. But the possibilities are limited.

In many areas of higher farm income the current leasing arrangements are a great obstacle to better housing. In my own state, I see little hope for tenants on the rented farms to enjoy modern housing under our present leasing system. Not that farm income is unable to support greatly improved housing conditions. But the usual rental system is such that the additional income is almost certain to go into higher landlord rentals and higher land values. I can see very little going into improved housing for the tenant families. With the strong institutional roots common to tenancy systems, extension economists will find it most difficult to make much progress in the short run. But because the problem is difficult is no reason why it should not be tackled.

Housing is not the only nor necessarily the main tenancy problem. We perhaps are more familiar with the usual ones. However, it must be said that Extension has paid them relatively little attention other than promoting better leases. For the time being, tenure problems are not especially pressing. But they are still with us and are soon likely to require more of our attention. We need to be concerned with how well Extension is equipped to deal with them.

Of more immediate concern are the problems of beginning farmers. Returning veterans are already finding it difficult to find farms to operate and to finance, equip and organize a satisfactory farming unit. Of course this problem is not a new one. Year after year, we have a new group of young men trying to find a place in farming for themselves. The present situation is an acute stage of a perennial problem, but one that has generally had little attention from Extension in the past.

My own impression is that too often, we may seek an easy or a negative solution. This tendency to a negative attitude is partly

the result of our World War I experience with veterans returning to farms and partly a fear of the recurrence of the depression of the thirties. My point is that our help must be on sounder grounds than mere negation if we are to give veterans fair treatment.

Reams of advice are offered against starting farming as an occupation. Others advise young men to become hired farm laborers—although, based on past experience, why this is a good place for beginners to start in other than exceptional cases is difficult to see. In the case of many veterans, we are not dealing with the immature and unmarried young man who works as a hired man in the interim before wanting to begin farming for himself. More often he wants to find a settled place in life.

It is true, of course, that many will want to farm who are not fitted for success as farm operators. Others have better opportunities in the labor market either outside of agriculture, in closely related industries or services, or in the more-favorable-than-average farm job.

As I see it, there are three main fields where extension can help. The first is to help local organizations and groups see their responsibility and help them learn how they can be of real service to veterans and others wanting to farm. If local farmers, with their better capital position, greater experience and more intimate knowledge of local opportunities take a selfish attitude practically all the best opportunities will be absorbed by them. About the only exception would be where close relatives or others would find and keep opportunities open.

Some good work has been done by Extension along this line. But it appears to be far from adequate. Unless already under way, such help will come decidedly late in serving the purpose needed, though something could still be done.

The second field is to provide factual information that various agencies and groups can use who act in an advisory capacity to prospective farmers. A beginning farmer can find a great deal of technical information dealing with the production problems of farming in any state. He can find relatively little on the problems a beginning farmer must solve before he has need of such production information. Of the information on the subject of farm organization and management now being supplied, too much of what I have seen is based on larger-than-average and well capitalized operations. This assuredly is not the situation in which the beginning

farmer finds himself, and such information will be of limited use.

The third field is to furnish direct access to farm management and other needed information especially adapted to the needs of beginning farmers. It is not likely that any large percentage of these prospective farmers will take formal course work in an agricultural college. Where they do, I think a question could be raised as to how well the college courses offered fit the needs of these men. In any case, there is a great need for some kind of special management "schools" to be held out in the counties. This Extension can do if it begins in time. But it will have to move quickly or the opportunity will be lost.

We have not time to go into all the possible fields where farm management education can help farm families. So I will turn to two other points; the question of how well fitted we are to carry on an adequate program and a few words about possible methods.

Generally speaking, Extension is relatively poorly equipped to help large numbers of farmers with their managerial problems. The reason for this is found in the way the Land Grant Colleges and Extension grew up. Production problems have been the center of attention to date. While no one would question their importance, the result is that we are much better equipped to deal with them than we are with economic problems. In most states, it is unusual to find a County Agent that has suitable economic training though most are reasonably well equipped in production fields. Then too, economics is a more dynamic field than production so that those who do have training tend to fall behind more quickly in up-to-date knowledge. By and large, administrators and supervisors have production training. Naturally, they are more likely to stay on familiar ground than to venture too far into the necessarily controversial economic fields.

Too often extension economists themselves have failed to see their opportunities clearly. Many times, we have seen our program as that of a specialized field similar to the production fields. Very often we have kept it largely to ourselves.

If economics is to be most effective in Extension work we must see our contribution in a broader light. First of all we must be ready to help administrators and supervisors develop programs that are economically sound and in keeping with the problems not only of the present but those that lie ahead. More and more, I think, administrators are making use of an economic advisor for them-

selves and those of the supervisory staff. This is as it should be.

Next, we must improve our working relationships with the rest of the specialist staff, both men and women. Nearly all extension programs have their economic aspects. We must help these specialists see that in working with them we are not competing but are helping them strengthen their own program by being certain that it is sound economically. Farm people are too intelligent to accept for long any production or consumption program that suggests the misuse of resources. There is much economic information that can be woven into many programs carried out by other specialists that will make them sounder and more complete. This also will lighten the all-too-heavy burden now carried by most extension economists.

Third we must be more adept in finding ways that economic subject matter can be handled by county workers. If economic help is to be extended to the rank and file of rural people that should be reached, no staff of agricultural economists, however versatile and energetic, can hope to do this without the help of the many workers in the counties.

With all of the above, there will still remain a large field of more specialized work that must be handled directly by extension economists. But if they let this work dominate their time and attention, the economic extension program is sure to be far too small in total.

As to methods, I believe that here also we need to re-examine our ideas. In the farm management field, the middle west has leaned heavily on the farm record approach. In the east, the south and the west, the typically small staff has held to a generalized program. Farm planning is yet in its infancy. Outlook has had general use in all areas with relatively good results. Farm management "schools" are promising but have had limited use to date.

I believe the farm record approach has a limited application based on experience to date. Its appeal has been largely to the diversified farming area and to the upper half of the farm income group. Probably it would have a wider appeal if methods were simplified and the work organized so it could be carried on largely by county workers. Very likely it consumes relatively too large a part of farm management specialists' time at present. This is not to say that it does not have an important place in farm management work. But as a method, re-appraisal is called for in many places.

The use of the farm planning method is expanding. Thus far, its

use outside the extension field has been much larger than that within although workers in several states have used it. The Farm Security Administration has found it an excellent tool for the type of farm family with whom they deal and the conditions under which they work. The Soil Conservation Service apparently has made it a required method for their workers to use. Dealing, as they do, primarily with problems of soil conservation, they suffer from too much rather than too little zeal in their farm planning program. Their soil conservation methods appear to be sound. By and large, their farm plans are not likely to stand up well as their workers are not adequately trained in this difficult field. They might better extend far more rapidly soil conservation practices and minimize their greatly detailed farm plans. Extension has proceeded more cautiously with planning—too much so in the eyes of some.

The farm planning procedure seems to be most easily used and valuable where the choices in successful farm organization patterns are limited. It also seems to fit well in an area that has not caught up with new developments in technology. Its use where resources and types of farming are more flexible or where less new technology is available seems much more limited. Likely its greatest weakness is due to the large amount of technical help required per farm. These conditions should not eliminate it from Extension use, though they may decidedly restrict this technique.

Outlook information has been widely used and seems to be the most universally accepted economic program in extension. In its use, it also has something of a large farm bias since the success of these operators is more largely determined by accurate judgments in the market place than that of the less commercialized producer. In its traditional form, outlook has probably passed its peak of usefulness. With a considerable area of administered prices for farm products likely from here on, the relative importance of outlook will decline and that of policy making will rise. I am not certain that Extension has fully sensed this changing situation and is prepared to adjust their educational methods to it.

The methods I have sketched briefly are related primarily to problems of farm organization and operation and the adjustments needed. They are not so well adapted to many of the other problems I have discussed. Other methods are being used in farm management education and new ones need to be developed. We have

not time for anything like a thorough examination of all the possibilities at this time.²

The field of extension education in agricultural economics seems likely to be one of growing activity. It should attract more competent young men. But they should know that many other qualifications are necessary for success in the Extension field in addition to technical training. Administrators should give attention to the needs in the field as salaries have frequently been lower for extension economists than comparable positions in research and teaching. With the need for more economic education apparent as well as a growing desire on the part of rural people to have Extension provide it for them, the opportunity and challenge in agricultural economics education is great indeed. Extension needs to ask itself if it is prepared to meet it.

DISCUSSION OF PAPERS ON POSTWAR EXTENSION PROBLEMS IN AGRICULTURAL ECONOMICS

J. E. CROSBY AND J. W. BURCH

University of Missouri

These three papers furnish a very stimulating analysis of the problems which lie ahead of extension workers in the fields of marketing, farm management and general economics. Mr. Stout's distinction between educational activities and the performance of services in marketing seems an appropriate starting point for any review of Extension work and is a most appropriate caution to every worker in any of these fields, or for that matter, every worker in Agricultural Extension. The temptation to succumb to requests for outright services will be great, but the educational needs in these fields will be so large in terms of manpower that we cannot afford to yield even though that type of assistance to farm people may be a popular one for Extension workers.

Mr. Stout makes an excellent point that farm people in general do not have a working knowledge of the various functions of marketing, particularly the costs of present market services and the contributions made by such services to the marketing process. We would go further by saying that all of us have been too careless in assuming that certain services were essential, or that they have been rendered in the most efficient manner. Apparently it took a war and a drastic shortage of tires and trucks to bring us to the realization that milk could be picked up from farms more efficiently if duplication of routes were eliminated and that, similarly, livestock could be picked up at a lower cost when special services were elimi-

² For a rather complete statement see the USDA Extension Service processed publication *A Preview of Tomorrow's Educational Problems in Agricultural Economics and Rural Sociology*.

nated and pick-up arrangements were planned in advance. Now that the war is over we are afraid that the tendency will be to revert to the prewar extravagant methods which competition encouraged at the producer's or consumer's expense. Educational activities on marketing can not be complete unless they include a clear explanation of the various services rendered in marketing and whether they are actually essential to the marketing process, or merely accommodations at a price.

Mr. Stout makes the point that farmers in general have a very inadequate understanding of the relationship of price to consumption and concludes that this type of information is fundamental to the understanding of governmental price policy. We are much more anxious that the proper understanding of economic principles by farmers be responsible for the determination of proper agricultural price policy since farm people, as the parties most directly concerned, should determine policies rather than leave that important responsibility to some other group. We most certainly agree with Mr. Stout that proper understanding of the relationship of price to consumption should result in a markedly different attitude, for example, toward higher loan rates for agricultural products and the blind adherence to our present parity price concept.

The idea that education in marketing principles should be furnished consumers as well as producers is relatively new but essential if the most efficient marketing machinery is to be provided. More emphasis needs to be given to the fact that marketing covers all of the steps from the producer to the ultimate consumer and that inefficiency anywhere along the line results either in a lower price to the producer or a higher cost to the consumer and in a net loss to both. It is most disturbing to note that no public protest was made either by producers or consumers when milk distributors in St. Louis recently announced that they were asking for a two cent increase in the ceiling price of bottled milk because the wagon driver's union insisted on returning to the more expensive practice of every day-delivery of milk. Producers with more milk to market now than they had before the war apparently fail to see any relationship between this move and the problem of providing a satisfactory market for their increased milk supply. Consumers on the other hand with recent wartime experience showing that every other day delivery was satisfactory apparently are indifferent to a policy which requires them to pay for an unproductive "service." Unless and until producers and consumers have a clear understanding of the results of marketing practices and their costs to society we will not have discharged our full responsibility as educators.

Mr. Stout lists many questions which must be answered before producers can know when to produce, how much to produce, and what kind, quality and variety to produce. In many states there appears little probability that research workers soon will be able to answer all these questions and many others which enter the picture. Possibly one of the most valuable contributions which Extension workers in marketing can render is to convince groups of producers that one of the most profitable investments which such groups could make is in constructive research on these questions. Cooperative organizations are in excellent positions to do this

through the establishment of research divisions in their own organizations, but so far too few co-ops have undertaken this sort of service for their producers. If the point is made that some co-ops are too small financially to support a research program, it can quickly be pointed out that in the great majority of cases other small co-ops in the same field have the same problems and that several of them can combine in such a program. It should be inconceivable to anyone that any of our larger cooperatives could function most effectively without adequate analysis of all of these problems, any more than large scale corporately owned businesses can.

Mr. Stout makes another good point that production activities must be coordinated with market demand. In order to secure this coordination, our production specialists in Extension must have an adequate understanding of market demand and marketing problems. Obviously, this reasoning would require that extension workers in counties have the same understanding of both production and marketing problems and this information applied as they work with individuals and groups of farmers. If we proceed on that assumption, it would appear more logical to include marketing as an essential part of our production programs, rather than to insist that marketing should be handled as a separate, organized program in the county and conducted as other organized programs are. We need to make people feel that marketing is a part of the job rather than a separate phase which can be considered independently. The latter course is much more likely to encourage an individual worker to feel that he can choose between two programs, rather than feel that there is just one complete job to be undertaken. Following this same thought further, it seems inconsistent to recommend that assistant county agents should be assigned to marketing programs as a special activity in the counties. Unfortunately, Mr. Stout's statement that skilled marketing men can not be hired at an assistant county agent's salary is all too true. We should be much better off to hire a young man well schooled in the principles of marketing and put him to work as an assistant county agent under the direction of a competent county agent who knows both production and marketing methods and let the young man learn through in-service training. Moreover, this general experience in the county agent field would qualify the assistant for later appointment as a county agent. On the other hand, if his experience as an assistant county agent were limited to one special phase of county Extension work, he would never become qualified through experience to assume all of the responsibilities of a county agent. Not many states will be in position any time in the near future to employ assistant county agents on the industry basis which Mr. Stout mentioned and have any considerable number of assistants. Nevertheless, this procedure is more in line with our last suggestion—that the assistant county agent be familiar with and work on all phases of the industry program. In most states this will simply mean that he works on all of the major industries in the county and does exactly the same work as the county agent under the direction of the latter.

There should be little argument over Mr. Stout's belief that too little has been done by Extension in the field of marketing and that too many

of our marketing programs can be characterized as being specific in nature and limited in scope. It is also true that there is urgent need for additional information, much of which must be provided through additional fundamental research. We need a much more vigorous Extension program in marketing and we need, too, vigorous and dynamic research. Marketing specialists should be in an excellent position to suggest lines of investigation to research workers.

Turning to Mr. Westcott's paper on General Economics Extension Work takes us, as he says, to problems that originate outside the farmer's line fences, and he adds in this connection that a further point which is not always recognized is that people frequently have needs of which they are not fully aware. To us the most disturbing thing about these general economic problems is the fact that too few people recognize the existence of such problems and still fewer believe that anything needs to or rather can be done about them.

The number one problem in our Extension work is to bring a realization to farm people generally that the wise solution of these general economic problems is essential to their well-being and to maximum success in any of their other activities. We accept in this country the principle that there should be equal opportunity for all, but we need to have a general understanding of the fact that group action determines just how much opportunity is available to any individual. A sound decision in regard to these broad economic problems offers every individual wide opportunity for the cultivation of his own skills and efforts, but, on the other hand, unsound policies narrowly limit even the most intelligent and skillful individual in his economic progress.

Mr. Westcott also makes an excellent point that the criterion as to whether general economic subject matter should be included in our Extension programs should not be whether it is controversial but rather whether it is important. Extension workers cannot continue to be leaders if they avoid any consideration of controversial issues. The highest type of teaching is that which trains the student to think for himself and as teachers we cannot be satisfied with anything less than that. Unless people learn to think and arrive at conclusions for themselves our democracy may not survive.

We know that visual education and group discussion such as Mr. Westcott mentions are very useful educational tools but our impression is that their successful use is not quite as simple as might appear from this discussion. In the first place, we feel that in this particular field of teaching we are still confronted with the application of the first principles of teaching which are to attract attention and arouse interest. Once that has been accomplished we are in much better position to use these devices which have been described. We have been very enthusiastic about the use of group discussion but have been disappointed far more often than pleased with the results of this method used either with Extension workers or rural people. We believe that it is far more important to have a skilled discussion leader than it is to have a capable speaker present subject matter.

The mere fact that these subjects are controversial dissatisfies most people. They much prefer to deal with questions which can be given hard and fast answers rather than to consider those which require thinking in order to reach a conclusion. Since everyone is confronted with very numerous questions of either kind, the tendency is to give consideration to those which are most easily answered and neglect the others. This reaction is not confined to rural people but is probably equally prevalent among most Extension workers—both county agents and subject matter specialists. Since the manpower which can be employed in Economics Extension will likely continue to be relatively limited, even under the Bankhead-Flannagan Act, the major task of Extension Economists is to train other extension workers so that we might, through them, extend this type of teaching more broadly than we ourselves can directly.

Mr. Westcott makes some very sound suggestions for training of future county workers, but a far greater problem exists in connection with the training of the more numerous present county workers, most of whom probably will continue in Extension work for a good many years. These county workers must have some formal education in economics and inject these economic principles into their routine work with farm people if we are to do a satisfactory job of training in these fields. One solution to this need for additional formal training is provided through summer schools for Extension workers. If the agent is willing to devote his one month of annual leave to schooling, State Extension Services should be willing to contribute another month on pay for that purpose. Obviously, not every agent can attend such a school every summer but arrangements should be made so that at least once every five years the agent could spend a minimum of two months in formal schooling. Another thing which we are considering in our state is correspondence courses in economics for academic credit. We feel that this matter of formal enrollment for credit is important because most individuals need the pressure of doing a certain job at a certain time and meeting a certain minimum requirement in order to complete this sort of an undertaking. We have not gone so far as to have any detailed plans for this work but hope to complete arrangements in the very near future.

Recognizing the importance of policy making as a function of farm people, we cannot assume that this responsibility will be assumed quickly enough or seriously enough through natural evolution. We would fall short of our job as teachers if we secured a more general understanding of economic principles and failed to make clear that farm people have a part in seeing that the right decisions are made on these questions. We need to take vigorous steps to stimulate economic thinking and the development of policy making in the rural areas. This need not require the establishment of new organization or new groups. Every county in which Extension work is undertaken has a local organization which sponsors Extension work. In most instances that local is affiliated with a state and national group. They have the machinery and the incentive to represent their members and, with the proper stimulus and information, should do this job most capably. In our state we have a committee, representing all of these county organiza-

tions, to advise with the Extension Service on those economic problems with which they think Extension can aid farm people. Then in turn each county sponsoring organization is encouraged to promote consideration of at least two of these economic problems in the various communities each year. Much of that is done through small neighborhood discussion groups, but an increasing amount of time is being devoted to a discussion of such problems in county-wide meetings.

Turning to Mr. Malone's paper on Postwar Extension Problems in Farm Management, we find some very provocative ideas. His introductory statement on the three purposes of economic education seems to provide some basis for controversy. As we interpret these three there can be some inconsistency between the first and third in that the optimum use of economic resources would not necessarily narrow the income gap among workers in society. We need a more detailed explanation before we can understand and accept that third objective. As stated earlier, we are not yet convinced that farmers in general will demand that Extension give relatively more attention to economic problems. Our experience has been that farmers fail to have an adequate understanding of economic problems and the great majority, at least, feel that little or nothing can be done by them on these questions.

We are much more in agreement with Mr. Malone that ordinarily our Economic programs need to be planned and carried to the people at least two years before the people must make their decisions. Generally if that is done, we begin to work on these problems before most people are conscious that they exist. We still believe that as far as economic problems go we need to start with the first principle of teaching which is to attract the attention of the people to the problem.

While it may be true that the usual result of farm management programs designed to increase farm incomes is to increase output, that is not necessarily the case and should not discourage farm management workers. It is vastly more important to practice good farm management under unfavorable conditions than it is in a period such as we have just gone through. We think that we need to take a much more positive stand than to "consider the possibilities of lowering costs." Any failure to balance the factors of production increases the cost regardless of the total quantity produced. We have abundant evidence in our state that under a pasture system of farming we can produce a "good" grade of beef with little or no grain. That system generally does not provide the maximum immediate cash income that could be secured from the land but it does provide the optimum net income because costs are so much lower than under a more intensive system of production. Our records also show that good dairy cows whose feed is limited to roughages will produce 85 percent as much milk and 80 percent as much fat as they would on normal grain feeding while feed costs are only 60 percent as great.

There is also room for debate on the undesirability of reducing the number of hours work per individual on the farm. Why additional free time

for farm people is any less desirable than for urban workers is difficult to understand. Possibly one of our tasks in Extension is to help farm people develop better ways of utilizing some free time. It should be no more difficult for farm people than urban residents to develop skills and hobbies which they could use to supplement their cash income and provide a much more satisfactory standard of living than the dollar income figure would indicate.

If we are not to increase total agricultural production how can we increase the productivity of the typical southern farmer without reducing the productivity of the typical Corn Belt farmer? In a nation which professes to believe in free private enterprise how can we justify that policy? Even if we do who is to provide the additional capital and where will the additional land come from? It seems much more hopeful to assume that the same solution which Mr. Malone described for the cotton area is applicable to all of agriculture in a greater or lesser degree. Improving technology in agriculture has always reduced the proportion of our total population which is required for agriculture. Can we keep the inefficient producers in farming at a profit to them, and if we do, can we expect to increase the total goods and services available to our citizens by the amount which we could by shifting these unneeded farm workers into other lines?

Mr. Malone makes an excellent point that improved income brought on by the war has deluded many farmers into thinking that they no longer have any farm management problems. Some of our national policies may tend for a time to strengthen this belief, so we will have a major problem in getting the majority of our farm operators to see the real problems of readjustment.

Mr. Malone questions the desirability of the noticeable trend toward larger farming units, particularly in the Corn Belt. While we may have little experimental evidence to justify such a trend we can be reasonably sure that where a general trend develops and continues over a period of time, some benefits result. Having a "head start" is not new either in agriculture or any other branch of our economy. If we are to assume that no one is to have a head start over any other person in the United States, there will be grave cause for uneasiness for many of us.

Mechanized equipment probably is an important factor in encouraging an increase in the size of farms, but if labor is to be replaced by machinery, power machinery must permit each man to handle more acres. Efficient use of such machinery automatically requires a larger acreage than under the old horsepower system of farming. Generally two or three men working together can do appreciably more than the same number can working separately, so that there is a strong inducement to operate on a larger scale.

It certainly can be debated that this system is no more objectionable than the one which prevails now under which a great majority of farm operators are considered as underprivileged—witness Mr. Malone's figures for the cotton states.

It is true that an increase in the number of paid workers on farms and a reduction in the number of self-employed does create a more important

problem of relationships between farm operators and hired workers. An improvement in these relationships is not impossible and the present public policy with regard to industrial wage rates, social security, etc., will provide strong inducements for agricultural employers to offer better compensation to prospective employees. It seems to us very probable that unless there is a drastic change in public policy we will not again have an overabundance of agricultural workers and that farmers will need to compete more actively with industry in order to secure the necessary paid workers. Extension workers definitely have a responsibility in making this clear to farm operators.

The task of assisting veterans who wish to become established in farming is an extremely complicated one. It is quite true that experienced farmers should not be advised to spend any time as hired laborers, but the fact remains that a good many urban veterans think that farming offers them the best opportunity, and they hope to make use of a GI loan to become established. It is still sound advice to such an individual to spend enough time as a hired man working with a successful farmer to learn the skills required in farming and to be sure that his theory of farm life coincides with actual experience. The purchase of a farm is not the only other alternative to employment as a hired worker. It seems quite pertinent to question whether many veterans should purchase farms at this time and equip them at the present level of prices. If the veteran is an experienced farmer and is certain he wants to become established he might be much better off as a tenant operator until he can be more certain about the future trend in the prices of land, livestock and equipment. Starting as a tenant farmer would be more likely to permit this beginning farmer to become established on a "larger than average and well-capitalized operation." It would certainly appear that he might be much better off doing this than he would to start as an owner-operator on an average or smaller farm and with little operating capital. We doubt very seriously whether we will render a real service to a veteran if we encourage him to expect a very satisfactory cash income from an average farm in most states.

Farm management specialists would do well to note and remember Mr. Malone's observation that we fail to see our opportunities clearly when we keep this work to ourselves. Our program can not be most effective if we give the impression that it is something apart from production fields. In actual practice the farmer has to consider all phases of his business together in order to see each part in its proper perspective. Until every Extension worker see his job from the same angle, we will not be able to render the maximum service to farmers. Our own personal experience has been that when the entire Extension Service works on problems—and farm management is the major problem of farming—we make much more rapid progress than when we work on projects, and farm people are much more enthusiastic about the service and help rendered.

There are sound reasons for the expansion of the farm planning method. In the first place, farm people understand it and easily learn to do their own planning. Moreover, they can apply this method individually. Farm

planning is a comprehensive method of doing farm management. This explains the weakness in the Soil Conservation Service plans which Mr. Malone criticizes. Until it is recognized that soil conservation and every other problem found on a farm must be integrated and related to the other problems before a satisfactory solution to all of them can be made, adequate plans can not be developed. Our experience has been that the farm planning procedure is most popular and most valuable in those areas where there are numerous choices between farm organization patterns rather than in the area of most limited as stated by Mr. Malone. While we have no actual experience in regions of specialized farming, such as fruit growing, or wheat or cotton production, it seems that those types of farming would offer much less opportunity for individual variation and adjustment of farm plans than is the case where general farming is practiced or where the operator has a choice of several specialized enterprises from which to select. Certainly the experience in our state has been that individual farm planning works very satisfactorily in our diversified agricultural sections.

Our experience too has been that the greatest weakness of farm planning is in the large amount of technical help required per farm. Our solution of that problem has been to convince local people that it is up to them to help themselves. We now have one county in our state in which individual farmers pay an annual fee of \$50.00 per farm for membership in a local association which hires a trained farm management man working under the supervision of the Extension Service to assist the members with farm plans and accounting. We also have an area of several counties in which local people are providing funds for the employment of additional Extension workers. In four contiguous counties we have in addition to the four regular county agents serving those counties, twelve additional men hired with local funds and employed under the direction of these county agents to work on farm planning. Even with this additional manpower, farm planning will not move as rapidly as we would like to see it move. We do know, however, that results filter out and we are convinced that it is an effective means of doing farm management Extension work.

POSTWAR AGRICULTURAL PROBLEMS IN THE GREAT PLAINS AREA*

W. E. GRIMES
Kansas State College

THE extent and the nature of the postwar agricultural problems of the Great Plains area, in large measure, still are to be determined. These problems are dependent upon national policies and programs as well as upon existing and probable conditions within the area. The national policies to be followed are none too clear as yet, and some of them still to be determined. These policies will have material effects on conditions within the area and result in problems of varying types and degrees of severity.

Existing federal legislation guarantees support prices for most of the more important farm products at 90 per cent or more of parity until January 1, 1949, or possibly longer. It is possible that some degree of production control may accompany this program of support prices. Marketing quotas may be used in the case of certain farm products. The use of marketing quotas to any great extent would necessarily involve some type of production control program. Many proposals have been made to revise the formula used in determining parity prices. Most of these proposals would result in higher parity prices than now prevail for many farm products. It is probable that any program which revises parity prices upward would, in the long run, accentuate the adjustment problems of the Great Plains area. This area is more concerned with the scope of the markets available for its products than markets of limited scope for limited quantities of the products which can be produced within the area.

The price policies to be followed in the postwar period are not clearly evident. The history of the advance of standards of living in this country is the story of increased efficiency in production, which has been reflected rather quickly in lower prices to consumers. If such a policy is to be followed in the years immediately ahead, it will mean lower prices for those products which are produced more efficiently. The increased efficiency will result in lower real costs of production at optimum use of existing facilities for production. This applies to industrial as well as agricultural pro-

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duction. If those with seemingly vested interests in the production of existing products obtain all of the advantage of increased efficiency, then the processes which normally have resulted in rising standards of living will be checked. This issue is involved in the present labor-management controversies which in reality are labor-management-consumer controversies. So far there is little evidence that serious consideration is being given to the possibilities of low price policies.

The question of low price policies also is of great interest to the Great Plains area because of the quantities of products produced in this area which must find outlets in foreign markets unless their production is to be materially decreased. Three alternatives seem to face the producers of this region. First, products may be priced so that they will move freely into international markets. This will include particularly wheat, pork and lard for the northern portion of the Great Plains, and cotton is added for the southern portion. Second, production may go on for a time at recent high levels, with surpluses piling up in this country. The final outcome of such a situation is problematical, but it seems reasonable to assume that such a situation cannot continue indefinitely. When it is brought to an end, the problem of the Great Plains area in adjusting will be more serious than if such a program never were followed. The third alternative is to inaugurate production control programs that will bring production in line with the needs of the domestic market and the limited foreign trade that may be available. Of these alternatives, the first, that is, production and price policies that will meet the competition of world markets, seems to offer the most in permanent prosperity and well-being for this area in the long run.

The success attained in obtaining full employment in non-agricultural industries also will be of vital concern to the farm population of the Great Plains area. Full employment will mean good domestic markets for the products of this area and also it will check any great back-to-the-land movement in postwar days. The area has lost farm population during the war years. In postwar days some increase in farm population may occur, but a material increase in the number of farmers is not needed; and if a production reduction program is developed, still fewer farms may be desirable.

Associated with the problem of domestic markets is the continuation of the industrial development which occurred in the Great Plains area during the war years. It still is to be determined

how much of this industrial development will be retained in post-war years. It seems probable that some of it will be retained. There are possibilities for further development of certain industries, particularly those of relatively small size and of local character. Such developments offer opportunities for local markets for certain types of farm products and, in addition, these industries may provide employment for surplus farm population of the area. The extent of this industrial development and its pattern still is to be determined.

Inter-regional barriers to the free movement of goods have handicapped the Great Plains area in industrial development. Discriminatory freight rates have been such a barrier. A start has been made in removing some of this handicap. The change in class rates was a beginning. The adjustment of freight rates on fresh meat and packing house products in accordance with a recent decision of the Interstate Commerce Commission is a further step in this direction. However, many other commodities still move on freight rate classifications and rates that do not give the Great Plains area an equal opportunity with other parts of the United States.

In crop production, material adjustments probably are in prospect. Wheat production has been maintained at high levels during the war years. Both acreage and yields have been high. Some reduction in acreage and in total production seems in prospect. How much reduction will be desirable will hinge on the question of the foreign markets available to American wheat. Wheat may be used as feed to some extent but, if so, a drastic revision in present pricing policies will become necessary. To be used as feed, wheat must decline in relative price until it can compete with corn.

The production of oil crops, such as soybeans and flax, was increased within the area during the war years. If foreign supplies of vegetable oils become available and if the needs for oils from the United States sources decline, the production of these crops may be expected to decline.

The grain sorghums have been increasing in importance in the area. This is particularly true since types have been developed that can be harvested satisfactorily by machine methods. Research in the properties of starches from various sources indicates that starch from certain of the grain sorghums is superior for many purposes to starch from corn. It is rumored that one of the large producers of starch was in the market buying many thousand

bushels of grain sorghums last year. This may result in greater opportunities for regions producing grain sorghums but, if so, it will be at the expense of the Corn Belt.

Feed crop production increased during the war years. So did the livestock population of the area. Future trends in the production of feed crops will reflect the changes in livestock population. It is hoped and expected that some of the increase in breeding herds will be retained in the postwar period. The change in this direction will be affected materially by policies pertaining to international trade. If foreign outlets for American pork and lard are available, then the Great Plains area will find it profitable to retain existing numbers of livestock and to follow a more general type of farming than prevailed in prewar years.

A more general type of farming is highly desirable in much of the Great Plains area. The effects of a more general type of farming go much further and deeper than merely the question of the types of farm products produced. A more general type of farming with less emphasis on one-crop farming will have material effects on the standards of living and the types of farm homes within the area. This problem touches the mainsprings of human well-being in the area.

During the war years the number of farms in the Great Plains area was reduced but the acreage in use was increased. The most logical explanation of this seems to be that many small farms that were little above the subsistence level were absorbed by adjacent farms. The resulting farms, after the combination of the two, were medium to large in size. Farms of exceptionally large size did not develop. In fact there seems to have been a tendency for some of the overly large farms to break up into smaller units. The shortage of farm labor was the chief check upon the development of large farms.

In certain areas within the Great Plains there has been an increase in suburban residences for industrial workers. The acute housing shortage probably was the chief influence—encouraging suburban developments. However, many of these suburban dwellers like the living conditions in rural areas, and it seems probable that much of this suburban development will continue. Much of it is in open country along all-weather roads and where electricity is available. These suburban units in many cases could be turned into small size farms on short notice if unemployment in non-

agricultural industry becomes serious. This is a constant threat in the form of increased competition to the established farmers of the area if depression conditions come.

During the war years the inability to obtain new machines handicapped many farmers. Old machines were patched up and continued in use. Farmers with machines helped their less fortunate neighbors. In the wheat belt proper, transient machines were available to many. Combines and associated equipment moved from Texas north with the small grain harvest, ending the season in North Dakota or Canada. Many farmers who hired these machines prefer to own and operate their own machines. They plan to do so as soon as conditions permit. Most of these farmers now have the cash to purchase the needed machines and probably will purchase them at the first opportunity.

During 1944 the Extension Service of Kansas State College, in cooperation with the Kansas Industrial Development Commission, made a state wide survey of farmers' intentions to buy in postwar years. The results of this survey indicate that Kansas farmers will be in the market for much labor saving equipment in postwar years. New combines, trucks, tractors, and automobiles were high on the list. Also included were pick-up hay balers, field ensilage cutters, power posthole diggers, manure spreaders, milking machines, and equipment to use with tractors. The farmers indicated that they expected to pay at least 90 percent of the cost of their postwar improvements and new equipment with cash, using credit for less than 10 percent of the purchases of new machines and improvements for both the farm and the home.

At present approximately 25 percent of the farm homes of Kansas have electricity. It is estimated that this number will be doubled within three years after materials for new power lines become available. Refrigerators, washing machines, and other electrically operated equipment for the farm home were high on the list. Water systems, heating units, and other modern equipment that will increase the comfort of the farm home are desired by many and they are making plans to purchase these improvements.

The results of this survey indicate three significant things. First, a high percentage of the farmers are determined to improve their farm homes. Second, labor saving equipment for the home and the farm is keenly in demand. Third, the expressed intention of most of

the farmers is to pay for these improvements with cash and to avoid going into debt for them. A higher percent of improved farm homes will complicate the problem of obtaining farm labor. Farm laborers who reside in houses provided by the farmer for whom they work will expect better housing than has been provided in the past. Electricity and other improvements that make farm living more comfortable will be demanded by farm laborers. They have a right to demand these things, and they should have them. But this will mean that farm labor will be more costly to the farmer. Consequently, he will endeavor to get along with less year around hired labor. This will be reflected in the type of farming followed and the kinds of equipment used. The desire for more labor saving farm machines is indicative of this trend.

Also indicated by this survey is the intention to maintain farms at about their present size or possibly a little larger on the average. If the farm equipment is purchased which farmers have indicated that they expect to purchase, it will increase the acreage which one family can operate. There is little in recent trends, or in the expressed intentions of farmers, to indicate that farming units will become smaller under postwar influences. On the other hand, the evidence indicates that the family size farm will predominate to even a greater degree than in prewar years. Increases in efficiency have made it possible to increase the number of acres that one family can operate efficiently, and it seems highly probable that this tendency will be expressed in the number and the size of farming units.

The survey also indicated greater interest in livestock production. Approximately 30 percent of the farmers reported that they expected to repair existing fences and build new fences in the postwar years. Power posthole diggers and manure spreaders are desired by many farmers. Equipment of these types indicates an increasing interest in livestock production. The kinds and numbers of farm buildings desired also indicates the same trend.

These data are taken from the survey for Kansas. There is every reason to believe that farmers in the neighboring states of the Great Plains area have similar desires and plans. The assumption is that these data are fairly indicative of the trends throughout the area. The trends in the number of farms and in the number of people in the farm population in other states of

the area indicate that the same influences are at work and producing essentially the same results.

The financial position of the farm people of the area is excellent. Farm mortgage debt has been reduced to approximately one-half the level of 1940. Many farmers have paid their debts in full during the war years. At present there is a tendency to assume some additional debt for land that is being purchased. If this movement increases in volume, it could undo much of the good results of earlier years. The prices at which land is sold have advanced and in some parts of the area they have doubled during the war years. However, much of the land is tightly held and it is difficult to find farms that are for sale. The desire of present owners to hold their land may check the present tendency for a land boom, but there is no assurance that this will occur.

The chief disturbing factor is the impact of returning veterans on the economy of the region. The veterans who have returned to date have been absorbed with little difficulty. In many cases plans were made for their return long before they ended their service in the armed forces of the country. However, those who do enter farming at present and who do it largely with borrowed funds may be the most important part of any farm problems that may result later if depressed conditions develop in agriculture. This would be exceedingly unfortunate. These fine fellows have made great sacrifices as it is, and to have them the chief victims of postwar maladjustments would be tragic. Avoidance of such a situation is dependent upon the wisdom and the courage of these men and of the committees set up in every county to work with them. One encouraging fact is that many of the purchases of land in recent years have been made with the return of veterans in mind. Farmers have purchased nearby land and paid cash for it, expecting to have a place for the son when he returns from the war.

In many cases, however, such plans have not been possible. The returning veteran will find that if he is going to farm, he will have to take his meager savings and supplement them with credit to get a start. Federal and state agencies are prepared to help such men. However, if such help results in getting them started regardless of the cost, the help may prove to be a sentence to trouble. The veteran could get into debt to a degree that later would prove hopeless. In many cases it is probable that the best help that can be

given the veteran who desires to farm is to encourage him to wait until conditions are somewhat more favorable to him. Of course this does not show up in work done by an agency that counts its good accomplishments in terms of loans made and number started in farming. The real good will be counted in terms of the proportion of those who start who succeed.

The fact must be faced that there are more veterans who wish to start farming in the Great Plains area than there are opportunities for them. Any attempt to start all or even a high proportion of these veterans in farming within the next year or two can only bring trouble. It is true that the average age of the present farm operators is high and that many of the present operators of farms will retire or pass out of the farming picture within a short time. But for every farmer who plans to retire, there usually is a son or other relative to take his place and most of these opportunities are taken. For those veterans without such opportunities, it would seem best to seek employment in non-agricultural industry until such time as an opportunity to farm is more favorable than it now appears to be for such a veteran.

The present situation in the Great Plains area is the best that it has been in the memory of those now living. Less farm debt, high liquid reserves, fewer farmers, larger family sized farms, desires for better home conditions, a trend toward a more stable agriculture, and other factors make the situation favorable. This could be changed shortly if a pronounced land boom develops or if inflation of other kinds gets under way to any great degree. The situation from here on into the postwar period will be determined in large measure by the wisdom of our national policies and the vision of those who are responsible for them. It is a time when a vision of the future ten to twenty years from now is more important than catering to the desires of those who think only of the next day or year.

POSTWAR AGRICULTURAL PROBLEMS IN THE CORN BELT*

C. W. CRICKMAN

Bureau of Agricultural Economics

CORN BELT farmers have completed their war job. They are beginning the transition from wartime to peacetime farming. Looking into the future, they see many uncertainties.

The crucial postwar problems confronting Corn Belt farmers are those facing all farmers—in fact all groups of producers—in the United States. They combine into the major problem of maintaining an expanding economy during and after reconversion.

During the war both agriculture and industry clearly demonstrated the “know-how” and the facilities for expanding production. But now that the war is over we are not so certain that we will have effective peacetime outlets to take the place of wartime requirements. We are debating ways and means for maintaining or creating domestic and foreign market outlets for our potential peacetime production. The objectives center on maintaining full employment, a large volume of international trade, and a high level of national income. The achievement of these objectives involves full cooperation of all groups in our national economy. Agriculture’s stake in the success of this endeavor is great, indeed. Unless the nation’s business is running at or near full employment levels, farmers cannot look ahead with a full measure of security.

Full employment and the general prosperity which could be expected to accompany full production would not obviate the need for postwar adjustments in agriculture. Market outlets undoubtedly would diminish for some farm products, enlarge for others, and price relationships would change. But under prosperity conditions the adjustments would be manageable. On the other hand, should our best efforts in that direction fall short, then the whole farm price structure would be under stress, and the difficulties would multiply as the number of unemployed increased and as the size of the national income declined.

Major agricultural regions have come out of the war in different situations. These differences are reflected in both relative wartime changes in production and relative prospects for market outlets.

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Because of these differences certain phases of agriculture's postwar problems are either more or less important in the Corn Belt than elsewhere. But remedies for the Corn Belt are largely a counterpart of those in other regions.

Wartime Changes

During the war farmers of the United States increased production by almost a fourth. Compared with the prewar years that were unaffected by the drought (1925-29) the production of feed grains and hay was increased 20 percent and 15 percent, respectively. The increases in livestock were even larger: milk 25 percent, hogs 35 percent, and cattle and eggs more than 50 percent. Gross income was 64 percent and net income was 100 percent higher in 1944 than in 1929. If the comparisons are made with 1935-39 instead of the earlier years the percentage increases are much larger for hogs and eggs, and for income to farmers.

Production per capita for our increasing population obviously did not increase so much as total output, but the rates of increase were significant. For example, the output of all meats per capita was 29 per cent more in 1944 than in 1925-29, and 23 percent more than in 1940-41. Corresponding comparisons for chicken meat show increases of 25 percent and 33 percent, and for eggs the increases were 33 percent and 37 percent. Per capita production of milk was 7 percent more in 1944 than in 1925-29 and 1 percent more than in 1940-41. We could use these larger quantities of livestock products during wartime because: (1) our annual exports were several times as large as in the years before the war, (2) the per capita consumption of our fighting forces was much above what they would have consumed in civilian life, and (3) with large incomes widely distributed, per capita civilian consumption of meats, for example, was 11 percent more in 1944 than in 1925-29. Even so, the wartime civilian demand was not fully met.

Farmers in the Corn Belt marched abreast with other farmers in total contribution to the arsenal of food. Measured in terms of the proportion of the nation's production that came from the five central Corn Belt States in the prewar period and during the war, the Corn Belt moved slightly ahead of the rest of the country in the production of each of the three classes of meat animals, and away out in front in the production of soybeans and turkeys. It held its place in the production of corn, hay, and milk, but lost

ground in the production of oats, barley, chickens, and eggs. The Corn Belt held its relative position in the production of corn (about 50 percent) only by pioneering in the use of hybrid seed to increase yield per acre, because the trend in the proportion of the total acreage in the five States has been slightly downward since before World War I. The change in position of the Corn Belt in acreage and production of oats is most noteworthy. The proportion of the total production of oats moved downward from 43 percent in 1925-29 to 39 percent in 1940-44, and to 34 percent in 1945. Proportional increases in income were somewhat larger and absolute increases were considerably larger in each of the Corn Belt States than in the country as a whole.

Thus the beginning of the transition from war to peace in agriculture finds the production plant mobilized for high production, with farm products selling at high prices and net income to farmers from two to three times that of prewar, depending upon the prewar years used for comparison. Wartime increases in production have been as important as increases in prices received in increasing income to Corn Belt farmers.

To appraise the future productive capacity of the farm plant, and especially of Corn Belt farms, we need to understand how so large an increase in the production of feed crops and livestock came about. To what extent were they the temporary results of emergency efforts, which will subside now that the war is over, as contrasted to permanent influences, which may continue to operate? In other words, with our farm plant now geared to a level of production well above prewar production: Can production be maintained at this level during the next several years?

Several Factors Underlie Wartime Increases

First, let us take a look at the factors underlying the unprecedented production and supplies of feed crops during the last five years, because the production of feed crops and soybeans is obviously the foundation of farming in the Corn Belt. The level of production of feed crops in the Corn Belt and the rest of the country during the next several years will determine the potential capacity for production of livestock and livestock products.

A major part of the wartime increase in the production of feed crops, especially in the Corn Belt, is attributable to higher yields per acre in pounds or in nutritive value for each of the leading feed

crops. Total cropland used for crops was increased about three percent by shifting some land into harvested crops that was formerly idle or used for pasture. Furthermore, a considerable acreage of cropland was shifted from small grains to corn or soybeans, and both corn and soybeans produce more feed per acre than oats. Soybeans are an important feed crop as well as an oilseed crop because the feeding value of the soybean meal produced on an average acre in each of the Corn Belt States exceeds the feeding value of an acre of oats by anywhere from 40 to 60 percent in the different States. Nevertheless these sources of additional feed were not so large as the additions resulting from increases in the yield per acre in pounds or nutritive value of these crops and of hay.

Foremost among the factors, including weather, which increased yields per acre, is the influence of hybrid seed corn. The greater vigor of hybrids and their resistance to lodging, plant diseases, and insects increase acre yields about 20 percent over open-pollinated varieties. Hybrid seed had replaced open-pollinated varieties on about 95 percent of the acreage planted in the Corn Belt and 58 percent of the acreage planted in the United States in 1944. Thus it is calculated that corn production in the United States in 1944 was about 400 million bushels greater than it would have been had open-pollinated seed been used on all of the acreage planted. In comparison, better-than-usual growing weather in recent years has probably accounted for an increase in corn production that is somewhat less than three-fourths as large. This estimate is made by multiplying the acreage harvested in 1944 by the difference in the average yield per acre between the 5-year period 1919-23, when growing weather was unusually favorable, and the 10-year period 1923-32, when weather conditions were fairly normal.

Improvements have been made in oats and soybean seed that are comparable to hybrid corn. And the improved varieties of seed for these crops are rapidly becoming almost so generally used as hybrid corn. New oat varieties, such as Tama, Boone, Vicland, and Marion are less susceptible to stem rust and crown rust, and they have contributed to the relatively high yields and have reduced abandonment. Likewise the Illini, Dunfield, and Richland varieties of soybeans have played an important part in the increases in yield in recent years.

Expanded use of fertilizer on corn and oats has improved yields. The increases in the use of fertilizer from 1935-39 to 1943 are esti-

mated at about 65 percent for corn and 237 percent for oats. The additional fertilizer probably added almost 1 bushel to the yield of all the acres of corn and oats harvested in 1943. More mechanical power and labor-saving machinery have also contributed to timeliness and effectiveness in farm operations. Undoubtedly both corn and soybean yields were higher in the Corn Belt in the last three years because farmers had sufficient power to complete planting and cultivating promptly after the late spring rains.

The noteworthy contribution of the hay crop to larger supplies of feed has come about through the gradual shifting from grass hay to legume hay. The influence of this change is most pronounced in terms of the increased quantity of digestible proteins in the total supply of hay. The remarkable shift to legume hay, and the moderate increase in the acreage of hay in recent years, as compared with 20 years ago (1920-24) shows an increase of nearly 40 percent in the total digestible proteins available from hay per roughage-consuming animal unit. The increase per animal unit of cattle and sheep may be as much as 75 percent because grass hays are preferred for horses and mules. This together with the big increase in the production of oilseed cake and meal means that important progress has been made toward a better balancing of rations for livestock. Consumption of high protein feeds per livestock unit averaged 5 percent more in the war years than in the prewar period.

Current production of feed crops was augmented during the war by feeding accumulated reserves of feed grains and wheat, and unusually large supplies of imported grains. But in the feeding year when these sources were drawn upon most heavily (1943-44), these two sources accounted for only about 10 percent of the total concentrates fed to livestock. Thus, by far the larger part of the increase in livestock production has been obtained from current production of feed grains, hay, and pasture.

Aside from the important increases in the total production of feed crops, the most important factor in increasing the output of livestock products for market is the shift from animal power to mechanical power that has been taking place since World War I. In the last quarter century the decline in total quantity of feed used for horses and mules on farms and in cities is equivalent to the production on about 50 million acres of cropland and many million acres of pasture. This large quantity of feed is now available for production for market. The hay and pasture released in 1944, as

compared with 1918, was enough to feed the equivalent of about 16.5 million head of cattle and calves.

Changes in the cattle enterprise have also been favorable to a general upward trend in January 1 inventories of cattle. First, dairy cattle have increased more rapidly than cattle intended primarily for beef. Second, the composition of beef cattle herds changed remarkably between 1900 and 1940 in the direction of lowering the average age and hence the average feed requirements per head of beef animals other than cows and bulls. Steers 1 year old or older constituted about 36 percent of the total number of beef animals on January 1, 1900, 25 percent in 1920, and about 17 in 1940. Conversely, calves constituted 22 percent, 30 percent, and 34 percent, respectively, on corresponding dates, of the total number of beef animals. Cattle raisers, especially in the Great Plains, have shifted largely to a cow-and-calf basis because cattle feeders demanded animals that could be finished into young good or choice grade slaughter animals.

During the 5-year period, 1930-34, about 66 percent of the beef cattle were in the 17 western States. During the most recent 5 years (1940-44), the proportion had decreased to 60 percent. This shift is accounted for mainly by the almost steady increase since 1928 in the number of beef cattle in the Central Corn Belt States. It is in these States that the greatest gains have been made in shifting from horse to mechanical power and from grass to legume hays and pastures, both of which have increased forage supplies for feeding cattle.

Postwar Production Outlook for Feed Grains and Livestock

On the production side, increasing the supplies of feed for producing meat and dairy and poultry products is progressive and will persist where it is done by shifting from horse to mechanical power, by the use of hybrid corn and other new higher-yielding varieties of seed, by turning from grass to higher-yielding legume hays and pastures, and by increasing the use of fertilizer. Likewise an influence in the direction of a larger production of livestock will be the feeding of better balanced rations resulting from continuation of larger than prewar acreages of crops yielding protein meals as a byproduct. On the other hand, renewed practice of soil conservation after the war may mean some reduction in grains for

hogs, but increased forage supplies for cattle and sheep—with little or no reduction in total feed units. Another offsetting factor is the uncertainty of prolonged continuation of the better-than-average growing weather for ranges, farm pastures, and feed crops.

During the war farmers in increasing numbers were expressing concern about the wartime intensive use of their land. Now that the emergency is over many farmers, particularly among those in the Corn Belt and Lake States, are likely to return to a cropping system which includes more grasses or legumes and less corn and soybeans if postwar prices of feed grains and livestock are high enough to permit adjustments toward stabilization of the productivity of the soil and of farm income. On the other hand, most of the gradual recovery from the drought setback in the acreage of corn in the Great Plains and Mountain States probably will be maintained. In the northern States of these regions, further recovery appears likely; but in the region as a whole the full height of the pre-drought acreage of corn probably could not be maintained over a period of years. In the southeastern States, the shifting from corn to oats which produce more feed per acre is likely to continue. For the United States as a whole, a postwar acreage of corn about the same as in 1940 (88-89 million acres planted) would permit (1) some restoration and maintenance of the productivity of the soil in the principal corn producing areas, and (2) desirable shifts in crop production in non-commercial areas. Attainment of the first objective in the Corn Belt would mean approximately a 15-percent reduction from the wartime acreage of corn.

The larger acreages of hay and pasture crops would require a large acreage of oats in some of the Corn Belt states to serve as a nurse crop for new seedings of these crops. Some of the acreage taken out of corn and soybeans would be used for growing oats. This will be encouraged by the recent development of new higher-yielding varieties of oats, such as Clinton, which in a series of trial tests has yielded an average of 14 bushels more than the average for Tama, Boone, and Marion. The acreages of both oats and barley probably will be increased in the northern Plains and Mountain states as a part of a program of more diversified farming. Better winter varieties of oats and barley for the South will contribute to further expansion in that region. Thus, there are indications that the postwar acreage of oats might be as much as 2 million acres more and of barley as much as 1 million more than the 1944 acreage.

If the acreages mentioned for the three feed grains are planted, and about 8 million acres of sorghums are harvested for grain, the normal expectancy for total production of feed grains in postwar years would exceed the prewar level because higher yields per acre can be expected with average weather. Reference has been made to recent achievements in this direction. The remarkable increase in the yield per acre of corn already achieved will more than offset the probable postwar reduction in the total acreage. The higher yields per acre of oats and barley would be harvested from more acres.

Some further advancement seems almost certain from wider use of new improved varieties of seed, increased use of fertilizer, and better tillage machinery, as more of each becomes available now that the war is over. Considerably more advancement in the use of improved practices will be profitable to farmers if the conversion from war to peace is carried out in a way that will maintain a reasonably high level of employment and national income. Recent studies made by State Production Adjustment Committees of the possibilities for improvement in yield indicate that in a prosperous agriculture it would pay farmers to use approved practices that might be expected to lift yields of corn and oats above the computed "probable" for 1945 by as much as 20 percent, and to maintain the yields of barley and sorghums harvested for grain at about the 1945 level, with normal growing weather.

Assuming only the computed "probable" yields for 1945 and the postwar acreages herein mentioned, the total tonnage of feed grains would be about 110 million tons—11 million tons more than the average production in 1937-41 (also in 1928-32), but 8.5 million tons less than the average wartime production in 1942-44. Any part of the estimated potential increases in acre yields set forth above would, of course, increase production proportionately and add to the difference in comparison with prewar years. Full attainment of the estimated possibilities for increases in yields on the mentioned postwar acreages would raise the total production of feed grains to 127 million tons—almost 8 million tons above the average wartime production from 1942 through 1944.

If a reasonably high national income is not maintained and farm incomes are low, the influences tending toward increased yields would be considerably weakened. But so would the possibilities of downward adjustments in the acreage of corn. It is necessary only to recall the situation that prevailed after World War I

and again during the period 1930-33 to anticipate how farmers would react to low prices. They would likely try to offset falling prices by maintaining the acreage of corn near the wartime peak. That would mean an annual production of feed grains of about 118 million tons, assuming current "probable" yields per acre.

Each additional ton of feed grains (when matched with the usual proportion of protein supplements and forage) would provide feed for producing about 1.4 additional composite units of livestock production. For example, if the quantity of feed grains fed in the postwar period should be 11 million tons more than the average in 1937-41, the number of units of all livestock production would be increased more than 15 millions—the equivalent of the production of about 19 million hogs of average weight. Moreover, the additions to livestock production other than horses and mules would be even greater than 15 million units because the downward trend in the number of work animals is expected to continue. The estimated decline in numbers of horses and mules from the average of 1937-41 to 1950 is the equivalent, in terms of feed consumed, of nearly 6 million livestock production units. Thus the increase in total production of livestock other than horses and mules that could be produced with an addition of 11 million tons of feed grains would be nearly 21 million units.

What do the prospective supplies of feed grains mean when translated into production of hogs? Allowing time for adjustments, the production of hogs is closely related to the available supplies of feed concentrates, especially corn. Assuming the lower figure of 110 million tons of feed grains, and making allowances for additions of byproducts, wheat, and rye, and for withdrawals for seed, food, and industry, the prospective supply of concentrates available for feeding all classes of livestock and poultry would be approximately 118 million tons. Assuming further that about 35 percent of the available supply of concentrates (the usual proportion) would be fed to hogs, and allowing 1,000 pounds per hog, the annual production of hogs for slaughter would be about 82 million head. By the same method of estimation, continuation of about the current level of production of feed grains would provide feed for about 88 million head of hogs. But, if production of feed grains should reach the potential of 127 million tons previously indicated, and if the same allowances are made, the calculated production of hogs for slaughter is 94 million head. These numbers can be compared with

an average slaughter of 57 million head in 1935-39 and the wartime record of 97 million head in 1944.

Considering the prospective production situation for cattle in different parts of the country, the feed supply in the postwar period is likely to be ample for supporting a level of all cattle numbers (beef and dairy) somewhat higher than has been previously reached. And the annual slaughter of cattle and calves from this higher level of stocking might be expected to be around 30 million head—19 million head of cattle and 11 million head of calves.

The almost steadily upward trend since 1928 in the number of cattle and calves in the Corn Belt and other eastern States was arrested in 1944. It may be moderately reversed during the next few years, because pressure for meat because of immediate postwar requirements will encourage heavy marketings. It will be good business to cull closely while there is a strong market. But as postwar adjustments in crop production are made in these States, feed will be available to support even more cattle and calves than are now on farms, because adjustments in the direction of more and better quality hay and pastures will be foremost in the postwar plans of farmers in the Corn and Cotton Belts.

The droughts of 1934 and 1936 affected cattle raising in the Great Plains and Mountain States more seriously than it did in States east of the Great Plains, because the drought was more severe in the West and because a large supply of coarse roughages that can be drawn upon in an emergency is always available in the eastern States. The cattle cycles always have been most pronounced in the range States, and the swings have been greatest in the Northern Plains, partly because milk cows are a relatively small proportion of the total number of cattle in the range area.

Reports of State Production Adjustment Committees for the range States emphasize the desirability of still closer culling of herds to bring them within safe limits from the standpoint of the supply of feed that is ordinarily available. Many ranges are overstocked for ordinary rainfall conditions; fewer cattle would produce a greater total gain in weight, except when grazing conditions are unusually good. Moreover, the recent shift on many ranges from sheep to cattle does not make the best use of range feed. The numbers of cattle and sheep in the range States should be so adjusted as to produce the maximum sustained output of meat from

the available range and winter forage. The committees have estimated the extent of this adjustment in the 17 western States as being about 5 percent below the number on farms and ranches on January 1, 1945.

Assuming a total population in 1950 of 144 millions and a slaughter of 30 million head of cattle and calves, the per capita production of beef and veal would be about 70 pounds, which would be about the same as the per capita consumption in the middle 1920's and the per capita civilian consumption in 1941 and 1942. The per capita production of pork and lard from a slaughter of 82 million hogs would be about 91 pounds; from 94 million hogs, about 104 pounds. A per capita production of 91 pounds of pork and lard (no allowance for exports) would be about 9 pounds more than the average per capita consumption in 1920-29, whereas a production of 104 pounds per capita would be about 22 pounds more than the average per capita consumption in 1920-29, and almost 13 pounds more than the average per capita civilian consumption in 1944.

Postwar Market Outlets for Livestock

After pent-up demands of domestic consumers and foreign relief requirements have been met, satisfactory markets and prices for meat and other agricultural commodities can best be assured by a high level of domestic employment and national income. The total number of dollars that slaughterers pay for meat animals for domestic use is related especially closely to national income because meats are a relatively high-priced food. Calculations based upon an analysis of past relationships indicate that if the national income in the postwar period is as low as 105 billion, farmers could expect to find a domestic slaughter outlet at commensurate prices for about 28 million head of cattle and calves and for 75 million head of hogs. On the other hand, if conversion from war to peace is so carried out that national income is maintained at a high level (150 billion dollars), farmers could expect to find a domestic slaughter outlet at commensurate prices for about 30 million head of cattle and calves and 87 million head of hogs.

Pork and lard were the only meat-animal products for which the United States had an appreciable export outlet before the war. From 1935 to 1939 our exports of pork averaged about 2 percent and of lard about 12 percent of the annual production. The pros-

pects for an expansion of exports of these products in the longer-term postwar period are not very bright. Denmark and other European hog-producing countries came out of the war with reduced breeding stock—probably 30 to 40 percent below prewar—but when they can obtain their usual supplies of feed they will soon get back to normal production. Canada has greatly expanded hog production during the war and hopes to continue to find an outlet for any surplus in Great Britain. Argentina, too, will be seeking a market in other countries for a part of its small, but increasing, production. A recent analysis of the postwar situation regarding exports of farm products from the United States indicates that exports of 600 million pounds of lard and 340 million pounds of pork (about the same as in 1925-29) is as high as can be reasonably expected even under full employment, unless foreign countries also have an expanding economy.

A production of 94 million hogs is about the same as the estimated number for which farmers could expect to find domestic and foreign outlets, assuming the domestic market would be supported by a national income as high as 150 billion dollars. On the other hand, a production of 82 million hogs is 7 million head more than domestic consumers would probably take at a price commensurate with a national income of 105 billion dollars. And a production of 88 million head is 13 million more. Obviously corn-hog farmers have a big stake in full employment and a high national income, and in larger export outlets than they had before the war. Otherwise both surpluses of either corn or pork products and low prices almost certainly will confront them in the postwar period.

Soybeans

Beginning in 1934, the rate of introductory expansion in the planted acreage of soybeans for all purposes was accelerated, first, by the drought, and later by the corn acreage limitations of the AAA programs. War influences, including greatly increased demand and enemy occupation of important sources of foreign imports, sustained but did not greatly increase the previous rate of increase. The relatively larger increases in the acreages of soybeans harvested for beans in 1941 and 1942 were attributable to a shift in the utilization of the crop. Fifty-three percent of the increase

in the acreage harvested for beans from 1940 to 1944, was the result of harvesting a larger percentage of the planted acreage for beans. The acreage planted in 1945 was somewhat smaller than in 1944, but the percentage decline was about the same as for corn. Both crops suffered unfavorable weather at planting time.

It would be hard to measure how far the planted acreage has been lifted above a logical growth curve. But it seems safe to assert that, in competition with other crops for the use of land, soybeans will be in a stronger position in the postwar period than in the prewar years. More farmers have experience, and have developed skill and acquired equipment for growing and handling the crop. Improved varieties are now available for a wider range of soil and climatic conditions. The Lincoln variety which is now under test has yielded 20 percent more than the present standard varieties in the Central Corn Belt. Moreover soybeans are more resistant to drought than corn, produce relatively better on poorer soils, and are still relatively free from insect and disease damage. As farmers have acquired experience and facilities for growing and harvesting soybeans for beans, costs have been reduced, and the crop now ranks close to corn in net cash returns per acre in the Corn Belt.

On the other hand, several forces will push toward downward readjustment in the postwar period. The need for soil-conserving practices which require a readjustment in the proportion of the cropland in legumes or grasses has been mentioned. In two or three years when low-priced tropical oils and whale oils come back on world markets, the total supplies of fats and oils will be large enough to meet demands without any special inducements to domestic producers, and they may be so large as to even further narrow the soybean-corn price ratio from the wartime relationship of about 2 to 1.

Current estimates of probable market outlets for soybeans produced in the United States indicate a soybean-corn price ratio slightly less than 2 to 1, and production opportunities ranging from 8 to 10 million acres (harvested for beans) under conditions of full employment. With moderate unemployment, the production opportunities at similar price relationships would probably be as low as 6 to 7 million acres. Thus fats and oils may be among the postwar group of surplus commodities.

Maintaining Markets vs. Adjusting Production

With our agricultural plant geared to produce meats, fats and oils, and other products in considerably greater volume per capita in the postwar period than in prewar years, Corn Belt farmers, particularly, are faced with the following alternatives. Either (1) per capita consumption of meats and other Corn Belt products must be maintained at a level about 10 percent above prewar levels, or (2) larger export markets must be found, or (3) production must be adjusted downward.

Obviously, Corn Belt farmers' first concern is in taking all possible steps to insure full employment and high purchasing power of consumers, both at home and abroad. The markets for relatively high-priced foods, such as meats, and fats and oils, have a very close relationship to employment and payrolls. With a high level of consumer incomes in the United States, accompanied by some permanent expansion of exports in pork and lard, Corn Belt farmers can go forward with security and without too many difficulties, in repairing the inroads of war and building more efficient systems of farming.

Food is essential and will be consumed in large volume even though consumer incomes decline. Consumption of food remained high during the depths of the depression because farmers continued to produce and market about the same volume of commodities as during the preceding years. But that output was disposed of only at a considerable reduction in price. Moreover, the reduction in price of meat animals and feed crops was disproportionate because as consumers' incomes decline they shift to cheaper foods.

Thus if consumers do not have a generous measure of purchasing power for buying meats of good quality, fats and oils, and dairy and poultry products, then Corn Belt farmers must consider other steps for maintaining a high level of domestic demand and foreign outlets. Some system of providing food enough for health to those with inadequate incomes, either by direct distribution of food or by provision for lower prices on food for low-income people, would seem to be a practical way of helping to maintain outlets for farm products at a high level. The school lunch program, as an example of direct distribution, improves the health by improving the nutrition of school children. An expanded program would offer a growing outlet for many farm products and an opportunity to enlarge the educational work needed on the use of high-nutrient-value

foods. A national program to improve the nutrition of the millions of low-income families by assisting them to buy enough food for a diet meeting modern nutritional standards would go a considerable way toward preventing declines in effective consumer demand and supporting prices. On the export side, although sharp increases in the export of Corn Belt products probably could not be expected to accompany a trade policy which would favor a balancing of exports with imports, indirect benefits are likely from an expansion of export trade in other agricultural products and in industrial products.

The Ever-Normal Granary for feed grains, and possibly for soybeans, will function as a reservoir for evening out fluctuations in production due to year-to-year variations in weather and temporary miscalculations of producers. The emphasis in a storage program, however, should be on the function of distributing supplies. Renewed attempts to maintain or raise the average level of prices of these crops in a period of gradual shrinking of demand is likely to result in the accumulation of stocks of an unmanageable size. Both flexibility and courage in the management of a storage program are essential to its success.

Most of these suggestions for efforts in the direction of maintaining broad outlets for the potential production of livestock products in systems of well balanced farming have objectionable features. But they should be considered as alternatives to a system of production and marketing controls for corn and other major Corn Belt products. Efforts in the past to restrict production or marketings of basic commodities and thereby to maintain or raise prices of those commodities have encountered accumulative difficulties. Either or both of two things happen: farmers must shift their resources to less efficient uses or stocks grow into unmanageable proportions. Changes from one product to another, or to less efficient methods of production, may alleviate the pressure on prices of particular products, but they cannot support farm incomes in prolonged periods of inadequate market outlets.

Finally, aside from the problems of facilitating the best possible free-market balance between production and consumption, is the need for all Corn Belt farmers to take stock of the inroads into their systems of farming made by war, and to lay out long-time plans for restoring and building for the future. In this, all agricultural workers—federal, state, and local—must be prepared to give timely

assistance, because herein lie many problems, the solutions of which can contribute to adequate and more stable income from Corn Belt farming. For example, even under the most favorable price conditions, many changes in enterprise emphasis will be needed in the interest of balanced systems of farming. Practical soil-conserving measures need to be developed or improved. Ways of combining plentiful supplies of mineral fertilizers with lime, legumes, and manure into more effective soil-improvement programs remain untried on many Corn Belt farms.

Full advantage could not be taken of many new technological developments during the war. Farmers need to catch up and move forward with the many more opportunities for improving farm practices that are almost sure to follow during the next few years. Effective use of improved mechanical equipment, building materials, fertilizers, varieties of seed, etc., results in greatly increased output per worker and reduced unit costs. These opportunities may be illustrated by what has been done on Corn Belt farms during the last two decades. On typical cash-grain farms the average volume of output was 40 percent more during the war years than in 1930-32, and the cost per unit of product decreased about 30 percent after correcting for all changes in prices paid and received. Likewise, on typical livestock farms the increase in output from 1930-32 to 1942-45 was 50 percent, and the cost per unit of product declined about 25 percent with corrections made for price changes. Because the increases in total output were associated with decreases in unit costs in terms of hours of man labor, units of equipment, and so forth, net incomes to these farmers could have increased without any changes in prices. As Corn Belt farmers continue adoption of improved practices which lower unit costs, they could expect to maintain net incomes even with somewhat lower prices. Thus one of agriculture's most important lines of defense is a further increase in efficiency and an even greater reduction in costs.

Present prospects indicate that postwar agriculture will be exceedingly dynamic in opportunities for the use of improved production practices. Foresight in making the changes will require managerial ability of a very high order. The more capable operators can benefit from rapidly changing conditions, but a large number of farmers are likely to be in great need of education and other assistance in making desirable adjustments to changing conditions.

Continuation of government aid will be needed to enable them to take full advantage of technological developments and to adopt them quickly as they are proved practical. In fact even more direct inducement should be given to rapid and widespread use of improved practices that reduce costs and contribute to more stable and better soil-conserving systems of farming; and that promote desirable shifts in production.

Farmers who are low in the scale of managerial ability and hence cannot move forward rapidly in adopting improved practices and in handling the larger operations mechanization makes possible, probably will be seeking, or should be encouraged to find, a system of farming less exacting in managerial ability than the mechanized Corn Belt farm of tomorrow. Exploring for these kinds of opportunities has been given much less attention in the Corn Belt than in some other regions. Farm operators and hired workers no longer needed in agriculture because of adoption of labor-saving practices will need assistance in finding other employment.

Conclusions

Briefly, the conclusions from this discussion are that Corn Belt farmers, together with others, likely will, and probably should, maintain the total output of feed crops and livestock products at a high level, assuming normal growing weather. The high level of wartime production was achieved by tremendous improvements in production efficiency, which have reduced unit costs. For the majority of Corn Belt farmers, a cut-back in production would mean that the remaining output would be produced at a higher average cost. Hence, even with market outlets shrinking, the level of farm production could be decreased only with great difficulty. More rigorous control programs than ever have been used would be needed, because controlling of production of some products would be ineffective so long as others could be substituted.

Corn Belt farmers' first concern is in taking all possible steps to insure full employment and high purchasing power of consumers, both at home and abroad. A high level of consumers' incomes would not obviate the need for postwar adjustments in the agriculture of the region, but they would be of a kind and a degree which would be manageable. On the other hand, should the nation's best efforts in that direction fall short, then the whole price structure would be under stress, and the difficulties would multiply as the

number of unemployed increased and as the size of the national income decreased.

If consumers do not have a generous measure of purchasing power for buying meats of good quality, fats and oils, and dairy and poultry products, then Corn Belt farmers will need to find or develop large market outlets for a high level of output. And this may require pricing policies that encourage a high volume of sales. They will also need to catch up and move forward with the many opportunities for increasing output per worker and for reducing unit costs by adopting recently improved production practices. In moving forward in the achievement of both of these objectives government aid will be needed. But the emphasis would be shifted, because net returns to Corn Belt farmers can probably be maintained more effectively by helping them to produce abundantly in balanced systems of farming, and at lower costs, than by efforts to maintain high prices by restriction on output. And the results are more beneficial to human welfare.

POSTWAR AGRICULTURAL PROBLEMS IN THE DAIRY REGIONS*

L. C. CUNNINGHAM

Cornell University

THE discussion in this paper is limited mostly to the production problems in the dairy regions. Only one or two of the marketing problems, of which there are many, will be discussed. Also, the discussion is from the point of view, admittedly, of one from the fluid milk portion of the Dairy Belt. Both of these qualifications are necessary in light of the experience of the author.

The greatest single problem facing dairymen in the postwar period is external to the dairy industry and in fact to all agriculture. The problem is that of unstable economic conditions in the United States. The total production of milk in the nation has been fairly stable from year to year, but the prices received by farmers for dairy products have fluctuated widely. Most of this fluctuation is associated with major sweeps in the general price level of the country. Efficiency in production and distribution has a place, and an important one, in the postwar program of the dairy industry. But the loss of income resulting from drastic deflation of the price level overshadows the savings resulting from lower costs of production and of distribution.

Like other segments of agriculture, the dairy industry has a tremendous stake in the maintenance of a reasonably stable general price level. Although this industry alone cannot cope with this problem, it can join with other groups in fostering more research and education on the problem. It is interesting to note that the winning paper in the recent contest sponsored by the Association places great stress on this problem—"Important as it is to agriculture, price and income stability is fundamentally the problem of our entire national economy."

During the period of World War II, prices of dairy products and costs in dairy farming have about doubled. The industry is now on an inflated price level. Although drastic deflation is apparently not immediately ahead, the same forces that caused severe depression of the early thirties are still unbridled.

Within the dairy industry, there are several postwar problems to be considered. An important one of these is the nature and ex-

* A paper presented at the annual meeting of the American Farm Economic Association, Chicago, December 28, 1945.

tent of the competition between regions in the Dairy Belt. The expansion in milk production has been at strikingly different rates in different areas, indicating that some fundamental forces are at work within the industry.

Much constructive work has been done on this problem, but it deserves and commands still more careful study. Members of the research group in the Bureau of Agricultural Economics have been leaders in this field. Workers in many states have made studies and in at least one state, a bulletin has been published with the title, *The Competitive Position of Dairying in Michigan*. This study was done in cooperation with the Bureau.

The theme song of the Bureau in their studies has been mostly the evils of "The Uses of Sanitary Regulation as Trade Barriers" in eastern milk markets. In my judgment, there is something much more fundamental in this problem of inter-regional competition in dairying. What is the relative economic productivity of the different grades of land on which dairy cows are kept in various portions of the Dairy Belt? What is the effect of alternative opportunities for dairymen in different areas? How much further will the shift be toward concentrating dairy cows on the better grades of land? Has the passing out of use of the poorer grades of land about run its course? What are the relative quantities of the different kinds of feed and of man labor that go into milk production under different sets of conditions in the Dairy Belt? The answers to these and other questions can be obtained only by careful research. Fortunately under the leadership of the directors of the state experiment stations, some coordinated research along this line is being started among the states.

Another important internal problem of the dairy industry is that of overcoming the difficulty of reducing the amount of man labor required per unit of product. The trend has been toward larger dairy herds and more milking machines and other labor saving equipment, all of which help to reduce the amount of labor per 100 pounds of milk, but in the meantime more labor has been required for disease control and to meet increasingly strict sanitary requirements. From the numerous studies that have been made, it has been estimated that from 1909-13 to 1937-40 the number of hours of man labor per cow in both the Lake States and in the Northeast showed little or no net change.¹ Milk production per

¹ *Changes in Technology and Labor Requirements in Livestock Production, Dairying,*

cow, of course, increased considerably during this period, so that the labor requirement per hundredweight of milk declined 10 percent and 20 percent respectively. However, in this same period the labor requirement per unit of product of many other agricultural products was more than cut in half. A further upward trend in milk production per cow, the continued trend toward larger herds and the newer practice of rapid milking all point toward lower labor requirements per unit of milk production. With larger herds, more and more labor saving equipment can be justified.

An immediate and pressing problem in many of the fluid milk sections of the Dairy Belt is the evening out of the seasonal production of milk. The problem exists in varying degrees of importance in many milksheds but is particularly pressing in the New York milkshed. In that shed the long-time trend has been towards more winter milk production with an interruption in that trend in recent years. The market faced the situation of insufficient supplies in the fall of 1945 and the prospect of very burdensome supplies in the flush production months in the spring of 1946. Although various education procedures have been suggested, the problem is primarily one of the relationship between summer milk prices and winter milk prices. In recent years the summer schedules of milk prices have been toned down or eliminated entirely. And on top of this when subsidy payments to dairy farmers were brought into the picture, they tended to be too uniform in amount throughout the year. Thus, much of the incentive to produce more milk in the fall months relative to the spring months was removed.

Another problem of the dairy industry particularly pertinent to the fluid milk areas has to do with the pricing of milk. In the order markets the current fad is to use some sort of escalator clause to fix the prices of fluid milk and cream. I am not in a position to say how this provision has worked in the other markets, but in the New York market, since the inception of the order with the escalator provision, more changes have been made in the Class I price as a result of other action than have resulted from the workings of the escalator clause. During the war, of course, the pricing mechanism was complicated by price ceilings, use of subsidies, rapidly rising costs, and the like, But what is to be the method of determining class prices in the postwar period?

One important problem of the dairy industry relative to other agriculture has to do with the use of parity in determining price ceilings, price supports, and other price relationships. Under the present parity, prices of dairy products are frozen relative to other groups, despite the fact that in the period from 1910 to 1940 the purchasing power of the prices of dairy products in terms of prices of all other farm products tended to rise markedly. Just as any product that has lost its purchasing power over several decades tends to gain under the present parity law so a product that has tended to rise in purchasing power stands to lose. The interest of the dairy industry will be served best when this yoke is broken.

DISCUSSION OF PAPERS ON POSTWAR AGRICULTURAL PROBLEMS

WALTER W. WILCOX

University of Wisconsin

The writers of these three papers, in common with all agricultural economists, emphasize the dominant importance of a high level of nonfarm income in the years ahead.

Professor Grimes recognizes that the Great Plains are now at their pinnacle of farm income as a result of both unusually large production and high prices. While he did not say so, it is implied that, regardless of the level of employment in this country, farmers in the Great Plains can expect both lower production and lower prices. The extent of the fall of each depends upon the weather and on international developments.

Professor Cunningham, in speaking of the dairy region, shows apprehension about the competitive position of dairy farms on the inferior grades of land in the Northeast. Before the war there was a gradual decline in farming on these lands and regardless of the level of demand for farm products, the people in the Northeast are concerned about the Midwest competition. Can their present level of dairy production on these less productive grades of land be maintained?

In the Midwest Mr. Crickman feels confident that, if national income can be maintained at close to 150 billion dollars, a market will be available for full output at satisfactory prices. Thus, to summarize briefly, the Midwest expects moderate reduction in income as both weather and prices return to more normal levels. The Great Plains expects more serious changes in both weather and prices, and the eastern dairy area, in addition, is concerned about increased competition from the western dairy area. But if national income falls substantially all sections will suffer a severe decline in prices and farm income.

It was encouraging to hear Professor Grimes' report that the farmers in his section of the country are expecting to undertake a vast modernization

program, utilizing cash reserves which they have accumulated during the war. This situation is general throughout commercial agricultural areas.

I was surprised to find Professor Grimes as optimistic as he appears with respect to wheat continuing in its present dominant position in the farming program throughout the Great Plains. I was expecting even more consideration of prospective shifts to general farming in view of the unfavorable outlook for selling a large volume of wheat at prices above feed grain levels. In the interests of keeping the records straight with respect to the wartime influences on the Great Plains, I wish that Professor Grimes had indicated the extent of the damage done by plowing up lands adapted only for grazing. Surely, if the problem had been important, it would have been mentioned. I was somewhat surprised to find no more concern about the size of farm than was expressed in this paper. Most farm management analyses indicate that there must be a substantial enlargement of the wheat farms in the drier sections of the Great Plains if the families are to make a reasonable living when prices for wheat drop to competitive levels. If this is true, then the difficulty of absorbing all of the veterans into agriculture who would like to return to farming in the Great Plains is even greater than Professor Grimes indicated.

Among the problems in the Great Plains in the years ahead, surely soil conservation and reduction of farming uncertainties arising out of crop yield fluctuations will continue to demand attention. While these problems have not been aggravated seriously by the war, neither have they been minimized. They continue to be major agricultural problems in the Great Plains.

Turning to the problem of the Corn Belt, I was surprised to find Mr. Crickman stating that wartime production increases were as important as price increases to Corn Belt farmers. Actually, production increased only 25 percent while prices increased about 100 percent. I also find myself questioning the statement that relatively little of the increased livestock production resulted from the carry-over of surpluses in the prewar years. I made some computations several months ago which indicated that half to two-thirds of the increase in livestock production over 1940 could be accounted for by the use of feed wheat, imports of feed from Canada, and the utilization of carry-overs from earlier crop years.

It should be emphasized that the increase in production which took place during the war years was largely the result of the adoption of improved technology on the land and with the crops and livestock currently in production at the war's outbreak, together with continued favorable weather. The emphasis which is often given in discussing the Steagall Amendment, providing for price supports for two years after the end of the war, gives those unacquainted with agriculture an idea that major reconversion problems are faced by farmers comparable to those found in industry. Such is not the case. Farmers, for the most part, have no other alternatives to continuing their wartime and prewar farming program, and their adjustments are largely to learn to live with lower prices and somewhat less favorable weather. In this connection, I find it difficult to understand the following

sentence: "Considerably more advancement in the use of improved practices will be profitable to farmers if the conversion from war to peace is carried out in a way that will maintain a reasonably high level of employment and national income." By all odds, most improved practices are cost reducing and thus are profitable even though farm prices are low. The statement is also made that cost reduction is a first line of defense for farmers if prices fall. But the great danger is rather that farmers in reducing costs will expand market supplies and cause prices to fall faster than costs. In fact, it seems to me that Mr. Crickman understates the probable rate of continued expansion in agricultural production as a result of improved technology.

These papers, both by what they include and what they omit, are a significant contribution to the understanding of the postwar agricultural problems in these three sections of the United States. Agriculture was not seriously dislocated by the war as the lack of attention given this problem in the three papers indicates. If high levels of national income are maintained, the picture is far from a discouraging one.

THE FARM PRICE POLICY AWARDS,
1945: A TOPICAL DIGEST OF THE
WINNING ESSAYS*

WILLIAM H. NICHOLLS AND D. GALE JOHNSON
The University of Chicago

"Great contest follows, and much learned dust."
—William Cowper

Introduction

The Nature of the Awards

IN THE spring of 1945, the American Farm Economic Association announced 18 Farm Price Policy Awards, with a total value of \$12,500,¹ for the best papers submitted by August 1 on the subject, "A Price Policy for Agriculture, Consistent with Economic Progress, that will Promote Adequate and More Stable Income from Farming." The purpose of the awards was "to stimulate nation-wide interest in improved price and income policy and methods for dealing effectively with farm price problems in the reconversion and postwar periods." Chester C. Davis, President of the Federal Reserve Bank at St. Louis, Mo., served as chairman of the committee of judges which rated the contest papers. Other judges were: W. W. Waymack, Editor of the *Register* and *Tribune*, Des Moines, Iowa; Henry C. Taylor, Managing Director of the Farm Foundation, Chicago, Ill.; W. I. Myers, Dean of the College of Agriculture, Cornell University, Ithaca, N. Y.; Alvin H. Hansen, Littauer Professor of Political Economy, Harvard University, Cambridge, Mass.

The contest was open to all citizens of the United States, except the award judges and current officers and members of the executive committee of the American Farm Economic Association. Papers were limited to 3,000 words in length, with additional explanatory material permissible. Contest judges made their ratings without knowing the authorship of the individual papers. Contestants from 41 states and the District of Columbia, Puerto Rico, Canada,

* Prepared for the Committee on Parity Concepts, American Farm Economic Association, at the request of Karl Brandt, Chairman. A preliminary draft of this report was sent to all 18 award winners for correction of any misstatements of fact or interpretation in classifying their respective papers.

¹ The donor, anonymous until the awards had been made, has since been revealed to be Mr. William H. Jasspon, head of the Fats and Oils Branch, Commodity Credit Corporation.

and the Armed Services submitted a total of 317 papers. Of these contestants, about 49 per cent were residents of the North Central states, 15 percent the Western states, 14 percent the South Atlantic states (12 percent from Virginia, Maryland, and District of Columbia), 12 percent the South Central states and 9 percent the Northeastern states.

The Winning Contestants

The winners of the 18 awards were announced in Washington on September 11. The first award (\$5,000) went to William H. Nicholls of the University of Chicago; the second award (\$2,500) to D. Gale Johnson of the University of Chicago; and the third award (\$1,250) to Frederick V. Waugh of the Office of War Mobilization and Reconversion. Recipients of the 15 awards of \$250 were George W. Barr, University of Arizona; Merrill K. Bennett, Stanford University; Gordon P. Boals, Office of Foreign Agricultural Relations; Karl Brandt, Stanford University; Willard W. Cochrane, Bureau of Agricultural Economics; R. J. Eggert, American Meat Institute; Paul A. Eke, University of Idaho; Carl C. Farrington, Production and Marketing Administration; Rudolph K. Froker, University of Wisconsin; Charles D. Hyson, Harvard University; Adlowe L. Larson, Oklahoma A. and M.; James G. Maddox, Bureau of Agricultural Economics; Rainer Schickele, Bureau of Agricultural Economics; Geoffrey Shepherd, Iowa State College; and Lawrence H. Simerl, Illinois Agricultural Association.

The Basis of Classification of the Winning Plans

The 18 winning papers may perhaps be most conveniently classified within four broad categories:

I. Price and Income Measures

- A. Price techniques for the attaining of the best allocation of agricultural resources, in a post-transition or long run sense.
- B. Storage programs for stabilization purposes.
- C. Price and income techniques for the maintenance of more stable farm income in an unstable economy.

II. Complementary Measures

Non-price devices for aid in the solving of the resource and income problems of agriculture.

III. *Price and Income Policies During the Postwar Transition*

Methods of meeting present government commitments to agriculture and making the transition to a sounder agricultural price policy.

I. Price and Income Measures

A. Pricing for Production

The 18 winning contestants are unanimous in their agreement that the principal function of agricultural prices is the reflection of consumer choices in the allocation of agricultural resources among individual farm products.

Criticisms of Present Parity Price

They also unanimously agree that price parity, in its present statutory form, is inadequate for meeting the requirements of a properly functioning pricing system. The principal criticisms of the existing parity-price concept are that:

(1) price relationships of 1910-14, based on entirely different needs and tastes of 30 years ago, represent a grossly distorted pattern of current consumer choices;

(2) 1910-14 price relationships reflect cost relationships between agricultural commodities and regions which differ greatly from the corresponding cost relationships of today, while tending to freeze resources according to an anachronistic design;

(3) insofar as historically-based parity-price goals have been realized by direct governmental action, agriculture is insulated from those effects of a sensitive pricing system which are socially beneficial;

(4) it ignores the necessity of shifts of population out of agriculture;

(5) it cannot achieve the objective of raising inadequate farm incomes (particularly those of non-commercial farmers) by raising prices above free-market levels;

(6) it fails to reflect prevailing grade, geographical and seasonal price differentials;

(7) for many products, its realization would price products out of domestic and foreign markets, resulting in either the piling up of "surpluses" in government hands or the "regimentation" of farmers through production and marketing quotas.

Present Parity Price in the Pricing Plans

Of the 18 award winners, no one accepts the attainment of full parity prices (as now defined by law) as the appropriate *goal* of price policy. Only one (Bennett) would accept the present formula as a *guide* to price and income policy. Furthermore, his program provides price returns of 65–80 percent of present parity prices, the range permitting considerable administrative discretion in adjusting relative prices, while the guarantee is sufficiently low to “have no appreciable influence in determining the allocation of national resources between farming and non-farming.”

Suggested Revisions of Parity Price

Boals, Farrington, Hyson, Maddox, Schickele, and Simerl advocate a revised parity-price formula as part of their pricing plans. All agree on the necessity of some change in the base period.² Hyson and Schickele desire merely a standard for the *average* agricultural price level, while the other four seek price goals for individual products. Hyson advocates a 1925–29 general base period, “since returns to farmers, labor and capital more nearly approximated a balance in this period.” Schickele suggests instead “the most recent period of reasonably full employment or a 5-year moving average.” Maddox supports a “much more recent base period” than 1910–14. Boals would establish a Parity Price Board to review and revise parity price and income relationships “as needed.” Farrington, while advocating revisions of price parity for individual products, specifies that the *average* agricultural price level should be held by government action within 90–110 percent of the 1910–14 price parity. Farrington would provide for continuous revision of individual base prices, using 10-year moving averages (from which not more than 5 years could be eliminated for “unusual conditions”) of “the relationships of the average prices of individual commodities to all agricultural commodities.” Price-support operations would be carried out within a range of 75–125 percent of these adjusted parity prices. Simerl suggests a 1935–39 base, which is “most satisfactory for establishing parity relationships among the various farm products,” adjusting all parity prices alike to maintain the *average* parity price level of 1910–14.

² The only other revision suggested was inclusion of hired labor in the parity-price formula (Farrington and Maddox), coupled with a wage and hour act for farm wage workers (Maddox).

Free Market Prices

Seven of the 18 winning essays recommend that, for some or all farm products, prices be allowed to seek their competitive market levels with *no* price goals or price commitments to producers and without interference of any kind by the government. Cochrane and Froker call for this policy for all farm products, Nicholls for all but livestock and livestock products, Eke for all but potatoes (and other perishables). Larson advocates free pricing for export products, Schickele for feed grains, and Maddox for cotton, wheat, rice, potatoes, dried beans and peas. It will be noted that even two (Maddox and Schickele) of those including some parity-price concept in their pricing plans fall in this group.

Advance Minimum Price Guarantees

Fourteen of the 18 winners (all but Cochrane, Froker, Maddox and Simerl) support some kind of minimum price commitment by the government in advance of decisions to produce. Of these 14, 5 would make advance price guarantees subject to certain parity price restrictions. Thus, Bennett's individual price guarantee (65-80 percent of parity) would be announced in advance for all farm products, as would Farrington's individual support levels (75-125 percent of revised parity), with full administrative discretion within these ranges. Hyson and Schickele suggest full administrative discretion in establishing forward prices, subject to the provision that the average level of farm prices is at a revised parity level. Schickele would limit forward prices only to "the more important farm products"; livestock products would be directly supported but not feed grains. Boals' plan, while tying price guarantees to an indefinite revised parity, could approach outright forward prices if his Parity Price Board received and exercised the powers which he recommends.

The other 9 contestants would divorce advance price commitments entirely from parity. In fact, Brandt, Eke, Johnson, Nicholls, and Shepherd consider that complete administrative discretion in fixing forward prices is desirable. Nicholls would, however, limit forward prices to livestock and livestock products; Eke would include only potatoes (and possibly other perishables), at least initially. The remaining four winners—with an eye to the dangers of political pressures and the legislative appeal of objective standards of performance—seek to provide non-parity formulas to meet their

price objectives. Eggert, Larson, and Waugh all present specific mechanical forward-price formulas of a non-discretionary nature which they believe, if followed, would approach an equilibrium of demand and supply by successive approximations. Larson's formula would be applied to non-export durable products and perishables. Barr's formula has a much more limited objective—an advance guarantee that next year's price will not fall below 90 percent of the previous year's price.

The Prevalence of the "Necessary-Price" Concept

For attaining the optimum allocation of resources within agriculture, 14 of the 18 essays seek to establish a system of "necessary prices" or "equilibrium prices" such as to call forth no more than the quantities of those foods and fibers for which there is an effective demand at full employment. Cochrane and Froker feel, primarily on political grounds, that free market prices (without government price goals, commitments or interference) will best approximate this system of relative prices for most or all farm products. Barr and Bennett may (because of the limited nature of their guarantees) probably also be included in this group.

Brandt, Eggert, Hyson, Johnson, Shepherd, and Waugh seek to approximate this *same* relative price system by advance guarantees for most farm products. Their aim is to achieve the objectives of the free-market system but to achieve them more efficiently. They point to the fluctuations in yield and national income and the time lags in farmers' production responses to changes in price, all of which create uncertainties which make free market prices erratic guides of resource allocation. They conclude that forward prices transfer, and in the process reduce, price uncertainty by permitting formulation of more accurate expectations and by the combination of risks. Eke, Larson, Nicholls, and Schickele—for either administrative or political reasons—seek the same objective by various combinations of free and forward prices.

The four remaining contestants—Boals, Farrington, Maddox and Simerl—though tying individual products to parity—support their plans in part on grounds that they at least permit a closer approach to this system of "necessary prices" than does existing agricultural policy. Maddox goes further by suggesting that certain products in chronic surplus be priced competitively. Boals' Parity Price Board could conceivably take "necessary prices" as

its standards of price parity if it so chose. Farrington's plan would also permit considerable flexibility in establishing prices approaching "necessary" levels.

Means of Meeting Price Commitments

Sixteen of the 18 papers (all but those of Cochrane and Froker) have limited or extensive price commitments—either before or after production decisions are made—for some or all farm products. Only one (Simerl) would use production controls, and none marketing quotas to make good these price commitments. For many products for which price commitments are advocated, 10 of the 16 would use direct payments to producers to make up any deficiency of actual prices or incomes below price or income commitments. Barr, Eggert, Johnson, Nicholls, Schickele and Waugh would make these direct payments on a price basis; Bennett, Brandt and Boals (on certain products) on an income basis; and Shepherd partly on both. All but Schickele and Waugh would allow market prices to clear whatever supplies are put on the market, subject only to acceptable storage programs.³ Schickele and Waugh would limit direct payments to situations in which "surpluses" cannot be handled efficiently by distribution as well as storage programs. Only Boals, Eggert and Shepherd are explicit in tying deficiency payments to desirable production and marketing practices (particularly to soil conservation).

Eke, Larson, Maddox, Schickele, and Waugh would also support individual market prices directly through consumption programs such as the school-lunch and food-stamp plans.⁴ Eke would also use surplus-diversion programs for potatoes and possibly other perishables. Schickele and Waugh would have the government support individual market prices by purchases and commodity loans only to the extent that the quantities acquired can be used for food distribution programs or stored against "real future needs." Boals, Farrington, Hyson and Simerl specify market price supports by purchases or loans without any safeguards, beyond the "reasonableness" of price commitments, against a piling up of stocks. Eke, Johnson, Larson, Nicholls and Shepherd, on the other hand, would limit purchases and loans to stabilization uses, in-

³ Discussed in Section I (B) below.

⁴ General nutrition programs are considered separately below, under Complementary Measures.

sisting that storage should not be used for supporting market prices.

B. Storage Programs for Stabilization

Of the 9 award winners emphasizing storage as a means to stabilization⁵ 5 (Eke, Johnson, Nicholls, Schickele, Waugh) take stabilization of physical supplies as their primary objective. Shepherd also does so for feed grains, but proposes income stabilization for wheat and cotton. Larson advocates using storage to stabilize prices of non-export durable products, Hyson to stabilize prices of durable products.

Only Simerl states loan rates in terms of parity. He suggests variable loan rates of 55-75 percent of revised parity (1935-39 base), depending upon the size of total supplies, including carry-over. He also makes it mandatory that recipients of loans participate in a soil improvement program. Hyson, Johnson, Larson, Shepherd, and Waugh advocate that certain loan rates take the form of advance price guarantees or forward prices. Johnson and Shepherd would include feed grains, wheat, cotton and tobacco; Larson non-export durables. Shepherd would vary the forward prices for wheat, cotton, and tobacco "inversely with the size of the crop."

Otherwise, the storage plans are stated in terms of *physical*, rather than price, standards of performance. For corn (and possibly other feed grains), Shepherd would use storage operations to "withhold the excess over average production in good years and release it in poor years." Eke (feed grains only), Johnson, and Nicholls use a similar criterion, average production, but suggest a moving base to allow for trends, particularly in yields. Schickele and Waugh seek to prevent carryovers from exceeding levels necessary to even out annual variations in production. Eke, Johnson, Nicholls, and Simerl would also fix absolute or relative *maximum* carryovers to help prevent political abuse of stabilization policies.

Barr, Bennett, Johnson, Nicholls, and Shepherd also suggest some form of crop insurance program.

C. Maintenance of More Stable Farm Income

All writers but Cochrane and Maddox⁶ prescribe certain price

⁵ Of the other 9, Barr and Bennett explicitly reject storage programs; Boals, Brandt and Farrington appear implicitly to assume that there will be storage programs; Cochrane, Eggert, Froker and Maddox are non-committal.

⁶ Cochrane and Maddox, and to some extent others, put primary dependence upon non-price complementary measures (Section III below).

or income techniques for lessening the effects of fluctuating income, price levels and employment on farm incomes. Only Eke, Larson, Johnson, Nicholls, and Waugh explicitly suggest somewhat distinct devices for depression and non-depression conditions.

Minimum Income Guarantees, Depression Conditions

For purposes of this program, Nicholls and Johnson would hold that a depression exists if an index of employment falls below some specified level. Under such circumstances, Nicholls advocates for all farm products, minimum guaranteed prices, defined in terms of a specified percentage of average prices during a certain "pre-depression" period. Eke's plan is quite similar, except that he might limit supplementary payments to fewer commodities. Johnson would continue to use forward prices, fixing them at such levels as to assure minimum net farm incomes at some definite percentage of average incomes during some "pre-depression" period. Waugh suggests only that farmers' depression incomes might be "supplemented by some form of income payment," probably "conditioned upon compliance with a program of sound readjustments in the agriculture of each area." Larson would also make direct income payments to producers which are "at least slightly in excess of the variable costs of the farmers whose production is needed." It should be noted that all five agree on the desirability of direct payments to producers rather than market price-support measures.

Minimum Income Guarantees, Non-Depression or General

Of the 13 contestants who do not distinguish between depression and non-depression conditions, only Eggert, Farrington and Froker present income programs which are not covered by their price policies, previously discussed. Eggert would adjust all forward prices upward or downward by that percentage necessary to bring the *real* incomes of rural and urban groups into some specified "parity" relationship. Farrington and Froker both accept the present parity-income formula (1910-14 base). In addition to other standards of performance, Farrington would "direct that price-supporting operations shall be carried out at such levels" as to maintain parity income in that sense. Froker would limit government commitments to those parity income payments (distributed among individual producers following satisfactory soil conservation practices, according to the value of their products) necessary

to assure agriculture of "a minimum share of the national income." This share would equal that of the 1910-14 base period, adjusted for changes in population. Boals also suggests that his Parity Price Board might revise and administer parity income as well as parity price relationships.

As we have already pointed out, Hyson and Schickele restrict the administration of relative prices by requiring the maintenance of some *average* agricultural price level. The purpose of this restriction is in each case primarily one of protecting agriculture's overall income position relative to the non-agricultural economy, especially against a general price decline. Bennett sees "governmental protection of farmers against periods of unbearably low level of income" as the principal virtue of his program. In his case, the minimum guaranteed income for each commodity would be the product of 65-80 percent of its parity price (1910-14 base) and "normal marketings," distributed according to each producer's "predetermined share" of such marketings. Brandt's plan is similar, his "minimum farm incomes" being defined, for each commodity, as the product of the production goal and the forward price. Barr's program, especially important during several years of falling prices, cushions income by a government guarantee against a decline of more than 10 percent per year.

Under non-depression conditions, Eke (fluid milk, perishables), Johnson, Nicholls (livestock products), Larson (all but export commodities), and Waugh would guarantee minimum incomes for certain commodities in the form of actual production at forward prices. The same holds for Shepherd for all products except food grains and fibers, in which cases a minimum total income is assured. For those products for which they prescribe free prices, Eke, Larson, and Nicholls (as well as Cochrane and Maddox) have no minimum income commitment whatever, apart from depression measures.

Again, there is unanimous agreement among the award winners discussing the problem that any minimum income commitments should be made good by direct price or income payments to producers rather than through market price supports. The minor exceptions have already been noted under the discussion of the price plans above.⁷

⁷ Pp. 273-4.

II. Complementary Measures

Most of the writers argue that agricultural price policy proper cannot solve the resource and income problems of agriculture without the aid of complementary measures—some of them of paramount importance—of a non-price nature.

Monetary-Fiscal Policy

Cochrane, Froker, Hyson, Johnson, Maddox, Nicholls, Schickele, Shepherd and Simerl put special emphasis upon the need for continuing national policy to promote a high level of production and employment as a necessary adjunct to any agricultural policy. Simerl expresses a generally held belief: "the nation must . . . manage the national debt and the annual budget to promote an adequate and relatively stable national income. If this is not done, no agricultural price policy can maintain an adequate and stable farm income." Johnson and Nicholls give priority to general fiscal policy (preventive) over their suggested compensatory price payments for agriculture (palliative). Maddox and Nicholls suggest compensatory public-works as part of this general policy. Maddox further suggests a thorough-going overhauling of our entire tax system, with a view to encouraging both consumption and (with Nicholls) stimulating business investment; a broadening of the coverage and benefits of social security (Eke concurs in part); a low interest-rate policy; and higher minimum wages.

Few papers consider the problem of disparities in income distribution, especially within agriculture. As a result, the regressive nature of the price and income payments to producers is largely overlooked. Eggert, Johnson, and Nicholls point out that price policy cannot solve the economic problem of that 50 per cent of the nation's farms which contribute less than 10 per cent of total farm-product sales. Nicholls and Johnson (and perhaps Shepherd) both suggest generous Federal support for rural education, health, nutrition and housing as one means of restoring this balance. Johnson also proposes a minimum compensatory payment of \$20 per year per member of each bona fide farm family not receiving other forms of government compensation or retaining off-farm employment. Bennett would handle this problem "through the familiar mechanism of the graduated federal personal income tax." Maddox would reduce all regressive taxes while Schickele presses

for taking "the objective of income protection . . . out of price policy," placing it into "a well integrated income distribution policy applicable to farmers as well as non-farmers." However, Nicholls' view that "the leveling process should at least be consistent with progress toward the goal of increasing the aggregate product available for redistribution" finds parallel expressions in a number of papers.

A Broad Nutrition Program

Eleven of the 18 writers indicate their approval of a broad nutrition program. Cochrane, Eggert, Hyson, Maddox, Schickele, and Waugh make a nutrition program a major part of their overall plans. They agree that the Federal government should subsidize low-income families to the extent of the difference between what they normally spend for food and the actual cost of an adequate diet. Maddox, Schickele, and Waugh specifically endorse the current National Food Allotment (Aiken-LaFallotte) bill. Shepherd and Eke also approve a broad nutrition program in general terms, while Eke and Hyson call for more consumer education in foods and nutrition. Froker and Johnson express the views of the group in urging that the main objective of such a program should be to improve nutrition rather than "surplus disposal"—that is, stabilization of the demand for all foods, not maintenance of the prices of particular "surplus" commodities.

Improvement of Resource Mobility within Agriculture

Of the 18 winners, six (Bennett, Boals, Brandt, Eke, Farrington, Shepherd) do not specify any non-price means for promoting resource readjustment within agriculture, although most of them warn that price and income levels should not be so fixed as to discourage needed readjustments. Barr, Eggert, Froker, Hyson and Larson stress the importance of research, extension and outlook in guiding farmers' production adjustments and in improving the marketing system. Cochrane, Johnson, Maddox, Nicholls, Schickele, and Waugh foresee the need for comprehensive production adjustment programs, particularly in the South and Great Plains. These writers agree on the desirability of adjustment income payments, separated from identification with market prices, or rehabilitation loans. Johnson, Maddox, and Nicholls also prescribe more generous terms for public farm credit, and patient managerial

guidance in shifting to new farm enterprises. Simerl gives a large role to a soil improvement program as a means of assisting resource adjustment.

Promotion of Resource Mobility between Agriculture and the Rest of the Economy

Among the winning papers, there was a fairly general recognition (1) that one of our biggest resource problems is that of an excess labor supply in agriculture; and (2) that stable and remunerative industrial employment is essential to a solution of this problem. However, only 8 writers suggested measures complementary to price and income policy proper for promoting movement of labor out of agriculture. Nicholls and Johnson urge that low family incomes within agriculture be supplemented by means (improved rural education, health, nutrition and housing) which will promote rather than hinder human mobility and will raise human productivity. Barr, Cochrane, Eggert, and Nicholls emphasize education and vocational training of displaced agricultural workers, perhaps at public expense. Eggert, Johnson, Maddox, and Nicholls would have the government provide job information through a national employment service. Johnson and Nicholls suggest industrialization of depressed rural areas and government-financed transportation costs to new places of employment. Cochrane would also have the Federal government stand ready to purchase (at 1940 prices) the farms of inefficient producers and, after public-financed retraining, provide them with jobs. Finally, Hyson, Maddox, and Nicholls point to the need of eliminating monopolistic and interstate barriers to both trade and human mobility.

Enhancement of International Trade

A large number of award winners recommend price policies for our principal export products which will allow them once more to compete in world markets. However, only 9 (Bennett, Boals, Eke, Hyson, Maddox, Nicholls, Schickele, Shepherd and Waugh) make specific suggestions of a complementary nature in this field. All of these writers support the reduction or elimination of tariffs, quotas, and export subsidies. Other measures proposed by one or more writers are international commodity agreements and buffer stocks, foreign relief and loans, international exchange stabilization, international exchange of economic information, and world peace machinery.

Soil Conservation

While a larger number of award winners suggest that soil conservation practices be taken as one basis for making government payment to producers, only Eggert,⁸ Farrington, Froker, and Simerl appear to have made it a major part of their overall programs.

*III. Price Policy During the Post-War Transition Period**Meeting the Steagall Commitment*

Only 10 of the 18 winners discuss the Steagall Amendment, which commits the Federal government to support most farm-product prices at a minimum level of 90-92½ percent of present parity for "the two year period beginning with the first day of January immediately following the date . . . that hostilities in the present war (have been declared) terminated."

These 10 writers, while agreeing upon the unwise nature of this commitment, believe that it should nonetheless be fulfilled in good faith. Waugh and Maddox, however, urge that (for purposes of this commitment) the two-year support period be dated from the time actual fighting ceased or shortly thereafter. Eke also expresses the hope that the farm organizations would press for amendment of the present commitment to 50-75 percent of parity. All 10 writers also concur in the view that the price-support period should not be further extended into the future.

Five of the 10 winners (Eggert, Eke, Johnson, Nicholls, and Waugh) would meet the price-support commitment by allowing prices to seek their own level, the difference between actual market prices and 90-92½ percent of parity being made up, on current marketings, by direct payments to farmers. Nicholls also recommends that the present huge cotton carryover be liquidated, by this method, during the next two years. Waugh would also support market prices directly up to the point where government acquisitions can be used either in food distribution programs or for storage "against real future needs." As "a last resort," Waugh would establish quotas for individual producers, guaranteeing the 90-92½ percent of parity price only to the extent of their quotas. Additional marketings would receive only the going market price. Maddox would use Federal purchases and cooperation by private

⁸ In addition, Eggert suggests payments to "livestock producers for more efficient production and marketing practices" as a major part of his program.

distributors and institutions to dispose of temporary surpluses of perishable commodities. Otherwise, he (and Cochrane) would depend upon complementary measures which, by maintaining high-level consumption, would maintain the prices of most farm products above the support level. For cotton, wheat and rice Maddox too suggests supplementary payments. Farrington, Hyson, and Schickele do not suggest any specific methods for meeting the Steagall commitment, although they suppose it will be fulfilled.

Transition Price Policy for Problem Commodities

Most of the papers recognize the necessity for much lower prices for certain problem commodities—particularly cotton and wheat—which have come to be in chronic surplus. At least 9 of the papers provide, explicitly or implicitly, for gradual reductions in producer receipts from these commodities (beyond the Steagall period) so as to prevent undue economic hardship. Eke, Larson, Maddox, and Nicholls prescribe progressively smaller cash payments to producers over 3–10 years to supplement free market prices. Barr's pricing formula would prevent prices from falling more than 10 percent per year. Eggert suggests that price-level adjustments (in this case downward) might be limited by legislation to 10 or 15 percent in any one year. Waugh's pricing formula would also provide for somewhat gradual downward price adjustments. Farrington's moving-base period could conceivably accomplish the same result. Finally, Cochrane presents a special formula for progressively smaller income payments for aiding producers in adjusting their operations from a support level to a free market situation. These declining payments would be based on production during 1939–41, so that the producer would not be "tied to the commodity in surplus to receive a benefit payment." Thus, he could shift to some other product during the payment period without losing the specified payments.

Conclusions

In the topical digest presented here we have indicated the general areas of agreement and disagreement under each of a number of general headings. Can we now pull together an over-all price policy which could be considered to represent the consensus of the group as a whole, at least in the major outlines of the policy?⁹ In this

⁹ Consensus is here defined to mean agreement among a majority of the writers dealing with a particular issue or problem.

summary we shall omit the immediate transition problems, including only such measures as are required for a long run agricultural price policy.

The price policy representing the consensus of opinion would not be based on the present or a revised parity price formula. In a pricing program designed to attain the best use of agricultural resources, forward prices or advance price commitments would be utilized for many, if not most, farm products. Advance price commitments would be divorced from parity, being fixed at levels no higher than necessary to meet consumers' food and fiber needs. However, the number of contestants suggesting complete administrative discretion in establishing forward prices barely exceeded that number offering some mechanical non-discretionary formula for determining the level of forward prices.

As a means of meeting price commitments, the preferred procedure is to permit market prices to fall and to make up any deficiency between the market price and the forward or guaranteed price by direct payments to producers, based on volume of sales. However, there was general acceptance of the idea that measures to improve demand through various forms of subsidized consumption and by storage for stabilization purposes were desirable supplementary techniques.

A storage program to even out the supplies of grains and livestock products and to reduce the impact of fluctuating yields on agricultural output would be an essential element of the price program. The objective of such a storage program would be to stabilize supplies available for consumption, not to support prices at excessive levels. There would be a provision limiting the size of storage stocks.

The price policy program would include three broad types of measures to lessen the extent of income declines to farm people during depressions: the fall in farm incomes would be cushioned by direct payments to farmers; subsidized consumption or nutrition programs would be greatly expanded during depression periods; and the general level of demand would be stabilized through monetary-fiscal policy.

There was general consensus that farm price policy could not operate effectively unless a number of complementary measures of a non-price measure were adopted. First, and perhaps most strongly emphasized, was the necessity for a strong monetary-fiscal

policy. Second, the contestants generally approved of a broad nutrition program, though emphasis seemed to be placed upon the goal of improving nutrition and the general demand for farm products rather than for supporting or increasing the prices of particular products which might be in surplus. Third, it was recognized that resource mobility, both within agriculture and between agriculture and the rest of the economy, needs to be actively aided and promoted. Fourth, the award winners agree on the necessity of coordinating our domestic and international policies to promote freer movement of farm products into international trade. Finally, some type of a soil conservation program would be continued.

APPENDIX

Personal Data about the Award Winners

Of the 18 winners, 6 were associated with the Federal government, 5 with land-grant colleges and universities, 5 with private universities, and 2 with private trade or agricultural associations. Six winners were employed in the District of Columbia, 4 in Illinois, 2 in California, and one each in Massachusetts, Oklahoma, Wisconsin, Iowa, Arizona, and Idaho. All the winners were professional economists, of which 12 hold Doctor of Philosophy degrees. The average age of the winners was 40 years, with 5 between 29 and 32, 6 between 37 and 40, one between 41 and 44, 4 between 45 and 48, and 2 between 49 and 52. The 18 winners named 11 different institutions as their principal graduate school, 4 specifying Harvard University, 3 the University of Wisconsin, 2 the University of Berlin, 2 the University of Minnesota, and one each American University, the University of California, Columbia University, the University of Illinois, Iowa State College, Oregon State College, and Stanford University. One or more winners had also spent at least one school-year in graduate study at Brown University, the University of Chicago, Cornell University, London School of Economics, the University of Maryland, Oklahoma A. and M. College, the University of Oslo, Rutgers University and South Dakota State College.

DISCUSSION OF PRICE POLICY AWARD PAPERS*

L. H. SIMERL

Illinois Agricultural Association

ALL of you will agree that we are deeply indebted to Professor Nicholls for having written an outstanding and unusually thought provoking paper. Likewise, we are indebted to the judges for their diligence and courage in designating such a paper for the prominent place in which they placed it. Finally, we appreciate the service Mr. Jasspon has rendered to the nation, not only by making the awards possible, but also for doing it in a way that appears likely to have fruitful results.

That the first award paper has many merits must be evident to all seriously thinking and fair-minded persons. It forcefully states many of the basic problems of agriculture and the nation. It is possibly the most trenchant criticism of the nation's agricultural policy that has yet been written. It is pregnant with ideas which are sure to meet with widespread approval among the processors and distributors of farm products and among many other persons.

Any criticism which I might offer may be subjected to a "sour grapes" interpretation. Nevertheless, the acceptance of the role of a discussor obligates one to bring out differences in viewpoints.

The first award paper appears to greatly overemphasize the shortcomings of agricultural programs under present legislation, and especially the misuse of agricultural resources. Comparatively speaking, there has been very little misuse of economic resources in agriculture and very little of that can be ascribed to national agricultural policy. Furthermore, the national agricultural policy has neither significantly restricted the production of vitally needed food nor substantially increased its retail price.

Likewise, it appears that serious weaknesses and dangers inherent in the proposed plan are not fully recognized. In fact, there are good reasons for honest doubts that attempts to adopt the program suggested would meet with greater success than that achieved by the programs which have been, or may be, carried out under existing legislation, or some modification of it. It may be that the proposed plan if adopted, would, like much legislation, bring forth as many surprises as Pandora's box. Let us consider some aspects of it.

* A paper given at the annual meeting of the American Farm Economic Association. Chicago, December 28, 1945.

As I understand the proposed plan, all attempts to influence prices of farm products through commodity loans, acreage restrictions, direct purchases, etc., would be abandoned. The positive features of the plan include (1) direct payments to farmers in periods of depression, (2) guaranteed returns from dairy products and livestock (intended to stabilize production), and (3) a crop storage program governed, within specified limits, by production alone.

Here it may be noted that the proposed plan gives little, if any, recognition to the importance of conserving vital soil resources and the relation of soil conservation to agricultural price policy. Yet soil conservation must be related to price policy if that policy is to work in the direction of optimum allocation of resources over a period of years.

The first essential element of the proposed plan is that in times of low employment farm income would be supplemented by direct government payments to farmers. The details of this plan are not explained, but the payments would be related to the difference between current prices and some proportion of the average pre-depression prices. Greater detail at this point would aid in evaluating the proposal. Lacking such information we must assume that attempts to inaugurate the plan would meet with serious technical difficulties. But other objections are more fundamental. Many of the millions of farmers receiving small payments would be forever demanding larger sums. This demand would have such a popular appeal that politicians undoubtedly would use and abuse the program for their own interests. Farmers would become ever more dependent upon the government dole and ever more subservient to national political machines. This tendency, which has been quite obvious under present legislation, would surely develop into a much more powerful propensity under the proposed plan. Thus, even if the proposed program were to be adopted, it probably would, within a few years, be distorted beyond recognition and be disowned by its original sponsors.

The second essential element of the plan suggested in the first award paper is that effective returns from livestock and dairy products be guaranteed in advance of the production period. The aim of these guarantees would be to encourage farmers to produce these products in needed quantities. Surely history reveals no great need for such a plan to guide the production of dairy products. The production of milk is remarkably steady from year to year,

varying mostly as a result of changes in pasture conditions. It is doubtful, to say the least, that minimum returns fixed in advance would give a better distribution of milk among its various uses than is obtained under free market prices. The production of meat, too, is remarkably steady except for adjustments largely due to seasonal and unusual weather changes. In order to plan the production of meat by the use of a forward prices scheme it would be necessary to forecast many supply and demand conditions 12 to 48 months in advance. It is extremely doubtful that economists, in the government service or elsewhere, have achieved any such proficiency in forecasting.

Modern history reveals the weaknesses of official and public forecasting. For example, some 15 years ago the nation was heading into the worst depression in modern times. Relatively few public officials, businessmen or economists had any idea of what was ahead. The list of these making erroneous forecasts reads like a "Who's Who" in public affairs. Among those in error at that time were Calvin Coolidge, Herbert Hoover, Charles Evans Hughes, Irving Fisher, Roger Babson, John D. Rockefeller, Sr., Andrew Mellon, Robert P. Lamont, Arthur M. Hyde, Charles M. Schwab, Henry Ford, Arthur Brisbane, Sir Josiah Stamp, W. Randolph Burgess, Col. Leonard P. Ayres, and many others.

Or take a more recent period—that of 1937. At that time Franklin D. Roosevelt was president. He had thousands of economists on the public payroll and at his service. He had vast powers and controls over government and business, yet he was not only unable to foresee the recession immediately ahead, but forecast increasing prosperity for all. (Even if a depression were expected by government economists, no administration could permit such an official forecast to be made.)

During the war economists were frequently in serious error in forecasting and planning. For example, those responsible for the utilization of feed reserves and for planning the meat production schedule were in great error when they scheduled the peak of meat production to come at a period many months ahead of the greatest need for meat.

Finally, the current situation certainly bears little resemblance to that which was forecast by most government economic agencies. Instead of having a serious unemployment problem, as had been forecast, we have one of the tightest labor situations of the last five years.

Thus, there is little in the record to indicate that employees of any government agency can forecast economic conditions with such accuracy as would be necessary to secure a substantial improvement in the stability of production through the proposed technique of forward pricing.

The third essential part of the proposed plan calls for an "ever-normal" granary with storage stocks fluctuating, in response to changes in production, between specified maximum and minimum limits. It is very doubtful whether this would work better, or even as well, as the storage program available under present legislation or some modification of it. The appendix to the first award paper gives evidence as to the shortcomings of the proposed plan. Had that plan been put into operation in 1930, the corn surpluses of 1931 and 1932 could not have been saved to supplement the very short crop of 1934. Consequently, a much severer liquidation of livestock would have been necessary. Likewise, part of the relatively abundant supply produced in 1935 could not have been saved to supplement the extremely low production of 1936. On the contrary, the government would have had to take action to force all of the 1935 crop into consumption in the 12 months following harvest.

During recent years the plan would have been even less satisfactory. Under it by 1944 stocks of corn in the "ever-normal" granary would have reached 788 million bushels. To accumulate such a stock pile farmers would have had to cut meat production during the war years by two to three billion pounds. This would have been a very damaging blow to the war effort as well as to civilian morale. For wheat and oats the plan would have functioned with similar perverseness. Thus, during the last 15 years an "ever-normal" granary such as has been proposed would have failed in each of the three periods of the greatest need.

The proposed plan might have worked better for cotton, but in the case of cotton, especially, the storage plan is based upon an unsound premise, namely, that annual consumption should be in proportion to production (with no reference to demand). Since cotton is used principally as an industrial raw material, the consumption of cotton should be related primarily to demand rather than to a single element of supply.

Certainly storage operations are an essential part of a sound economic system. Such operations should be related to production, but it is a mistake to insulate them from other elements of supply.

It would be an even greater mistake to insulate the storage program from changes in demand.

In this connection note that there is no assurance that the proposed program of storage operations would always be in harmony with the suggested goals and forward prices for dairy products and livestock. The goals and forward prices would be related primarily to consumer needs, but storage operations would be related primarily to crop production. Consequently, the two programs would be in conflict much, if not most, of the time.

Speaking of time reminds us that time does not permit an adequate discussion of the problems sketched above, nor even the mention of many other issues which would be raised by attempts to adopt the ideas embodied in the first award paper. We request your indulgence, however, while we follow Professor Nicholls' example in a digression from the assigned topic.

Professor Nicholls has devoted much of his talk here to an exposition of his views of the proper function of agricultural economists in national affairs. Apparently he believes that we should devote most of our attention to the explanation of economic theory. He would give relatively little attention to the current issues in national affairs.

Certainly we should be forever seeking economic data and attempting to gain a better understanding of economic laws. It is our privilege and responsibility, too, to offer suggestions as to what we believe to be desirable economic policy in legislation.

We should be careful, however, to refrain from presenting our individual opinions and preferences as if they were scientific truths deduced from economic data and principles. We fall into this error all too frequently. Consider, for example, the papers submitted in the recent contest. Each of the three papers receiving awards and the fifteen papers receiving honorable mention, presented different plans for a price policy for agriculture. In many of the papers, including my own, these proposals, by explicit statement or by implication, were presented as being *the* plan that economic science had proved would work better than any other. Presumably many of the other papers submitted made similar claims.

Naturally, this is confusing to legislators and farm organization leaders who might look to agricultural economists for either facts or advice. It is easy to see why many of our nation's leaders express but little respect for our group as a class, and why we may have less influence than we would like in national affairs.

If we who work in the field of agricultural economics would exert a more constructive influence upon public affairs we must not limit our activities to caustic criticisms of public policies, nor to philosophical speculations appertaining to the optimum allocation of economic resources. We should recognize that human affairs are not carried out according to any master plan drawn by or revealed to individuals. On the contrary, the future economic and social structure is determined by day to day decisions and actions. Thus, while *we* prepare our mathematical formulas and erect geometric figures representing our ideal world of the future, *others* forge the real world of tomorrow as they take positions and action on the Pace bill, the Thomas bill and upon literally hundreds of other important measures before the nation. In view of these facts surely we should give more, rather than less, attention to current legislative issues.

Let us recognize, too, that human problems are extremely complicated. They seldom fall into any one, or even two, of the commonly accepted fields of science. Let us recognize that while the tools of economists are useful, they are, nevertheless, limited. They may be used to throw some light upon, but they do not reveal the answers to, many public questions. Other fields of learning and even laymen's groups have contributions to make upon almost every subject of national policy.

Again let us recognize not only that agriculture cannot solve its problems alone, but also that fiscal policy is not the answer to all economic questions. In addition to sound fiscal policy there must be a better understanding of both mutual and special problems among agricultural, labor and industrial groups. Let us all, therefore, strive to become better informed as to the problems and policies of the various segments of the nation's social structure. Having done this, if we would utilize our own resources to the best advantage, we will work with, not against these groups. No economist need be embarrassed by working with farmers. Among all the major economic elements agriculture has always acted most completely in the public interest.

Finally, may we always remember, too, that the ultimate goal of mankind is not necessarily the economists' goal of optimum utilization of economic resources, but is rather the development of man himself. In the words of Emerson, "The true test of civilization is, not the census, nor the size of cities, nor the crops, but the kind of man that the country turns out."

DISCUSSION OF PRICE POLICY WINNING PAPERS*

R. K. FROKER

University of Wisconsin

THERE is one result of the price policy contest which disturbs me more than perhaps it does others. I refer to the generally unfavorable reception which the winning papers received from farm organizations and farm leaders. It is easy to regard this criticism as wholly unwarranted and biased. On the other hand, if these papers are to influence significantly agricultural policy they may need to win support sooner or later from agricultural as well as nonagricultural groups.

Perhaps we can find some common ground with farm folks if we go back and try to understand the original purpose of the parity price concept. Agricultural leaders were apparently thinking of farm income in comparison with the income of other groups and they assumed that parity prices were synonymous or nearly so with parity income. This would have been substantially the case if the volume of production and the technological developments had remained constant or had changed at a uniform rate in agriculture and industry. Probably no one could foresee the revolutionary and unbalancing effects of technology and economic innovations both within and outside of agriculture and the impacts of two world wars.

When one takes the parity income concept for all of agriculture rather than parity prices for individual commodities there is much less room for criticism even with the 1910-1914 base and particularly when the per capita income is used so as to adjust for changes in numbers of farm and nonfarm people. The per capita parity farm income for all farm people on the 1910-1914 base provides \$1.00 for \$3.16 of nonfarm per capita income. Surely that is not too favorable a ratio even as a minimum standard for farm folks. As for myself I would be willing to accept that parity income standard as a *minimum* for both periods of depression and prosperity.

Of the agricultural economists replying to the questionnaire sent out by the parity concept committee, 37 percent favored supporting the over-all or net farm income without supporting prices of individual farm products. I frankly believe that this is entirely possible

* A paper presented at the annual meeting of the American Farm Economic Association, Chicago, December 28, 1945.

and a reasonable approach. My price policy paper suggests one way that this might be done. There are, no doubt, other ways.

If I am correct in assuming that one of the major weaknesses in past agricultural legislation has been its attempt to maintain parity prices for individual farm products then several of the winning papers must also be criticized because they propose that such price support measures as they recommend are to be handled on a commodity basis. It would seem to me that to be consistent the people who want a free market to reflect the choice of consumers ought to carry through and use a free market to direct agricultural production. These are primary functions of a free market. When one seeks to maintain the prices of individual commodities at a historical level or at a percentage of some historical level, even with supplementary or compensatory payments, he has moved away from the current market relationships to some historical market relationship. I believe that income payments can be made in such a way as not to destroy the free market in its role of guiding and directing production.

Let me illustrate what I mean. In one of the papers it is suggested that in periods of depression agricultural prices should be supported by means of compensatory payments at a percentage of the three or four year level immediately preceding the depression. On that basis cotton would have been supported in relationship to the 1927-29 level of prices all through the 1930's and, in fact, through 1940 and well into 1941. The National Milk Producers' Federation recently went on record favoring 1910-1914 as the period for determining the general level of farm parity prices and a ten-year moving average for determining the relative prices for individual farm commodities. Such proposals have the same basic weakness as the present parity formulas and differ only in the degree to which they prolong maladjustments.

Another point frequently made or implied is that agricultural income will be adequately maintained if we have "full" or a high level of industrial employment. On this point I frankly believe that farm leaders are at least partially right in their concern when viewing the prospects for the next several years.

A comparison of employment levels with national income and with farm income over the past quarter century leads me to the conclusion that changes in the level of employment go much further in explaining variations in size of the national income than in

explaining the share of the national income which goes to agriculture. That is why I have personally stressed that we must have both a high level of employment and a balanced economy for farm people to be assured of a reasonable income. Full employment alone is not enough. This is particularly the case for the years immediately ahead since the volume of agricultural production available for civilian consumption will likely be substantially higher in total and on a per capita basis than at any time in history. Competitive forces may divide the national income quite differently in periods of abundant food supplies than in periods of relative scarcity.

In talking about "full employment" economists have usually been vague and indefinite in their use of the term. Is it to be full employment at fifty-two, forty-five, forty, thirty-six or thirty hours per week? Are agricultural workers to have equal access to the jobs on a free market basis or are they to be stymied by employment barriers? What is to be the pattern of national income distribution? These are important considerations in determining agricultural price policy for the future. Certainly full employment in the sense that the term is frequently used is not synonymous with maximum production, capacity production, or equality of economic opportunity.

If one should take three million as the level of unemployment before special measures are taken to support agricultural prices or income then the only year in the 1920's which would have called forth price and income supports was 1921. Yet the records show that per capita farm income was only about 80% of parity in 1922, 1923 and 1924. These were years of relatively high national income, high industrial employment and high industrial prosperity.

Farm leaders have apparently responded more favorably to the idea of forward pricing than to any other recommendation of the winning papers. Farm people appear to be thinking in terms of guaranteed prices at higher than competitive levels. We need to be precise in explaining what we mean and do not mean by forward pricing or we will be endorsing something different than we intended. The Steagall amendment provides a type of forward pricing and so do other parity price guarantees. Price maladjustments can be as bad under forward pricing as any other way. On the other hand, forward pricing that merely guarantees 90% of what is expected to happen under competitive conditions does not seem to me to offer much more than good outlook information.

I believe it is desirable to point out that farmers do not finance programs that cause consumers to pay higher prices any more than programs are self-financing when supplemented with funds from the public treasury either in the market place or as income payments. The incidence of the burden is important and the effects are likely to be somewhat different depending upon how the funds are raised and how they are distributed.

When we insist that agricultural price policy be aligned with public interest and general welfare it seems to me that we have an obligation in devising ways and means of assuring farm people that such policy will bring forth a reasonable share of the national income be that income large or be it small. This we have not done although I for one believe it is entirely possible and practical to do so.

Have we given enough consideration to the characteristics or peculiarities of agriculture or have we thought of agriculture only in general terms and on the same basis as labor and industry? Can agriculture with its full production, predominantly family-sized farms, and flexible prices operate in an economy with large corporations and national labor unions with their administered prices and wages and regulated production? Agriculture has not fared well in this company during the past two and a half decades, except in time of war.

It is a fortunate nation, indeed, that has the abundance and variety of foods and fibers with which this nation is blessed, and we can well afford to assure our farm people that they will receive a reasonable share of the economic advantages which this economy provides.

BASIC WEAKNESSES OF THE PARITY PRICE FORMULA FOR A PERIOD OF EXTENSIVE ADJUSTMENTS IN AGRICULTURE*

K. T. WRIGHT

Michigan State College

PRICES received by farmers for their products, when freely determined by demand and supply, are constantly changing. Not only does the general price level change, but the relative prices received for individual farm products as well. Costs of production likewise are constantly changing, some rapidly, some slowly. In addition, the long-time trends in the demand for individual farm products are showing marked differences. These and other factors in a freely operating economic system, continually affect farmers' decisions as to the acres of their farms they will devote to the different crops and the cultural practices they will follow.

Parity prices were declared a national problem by Congress in 1933. The purpose of this Act and related following legislation, was to reestablish prices to farmers which would provide a purchasing power and net income to farmers equal to that during 1910-14. Certain assumptions are implied in the parity price formula developed from this legislation: (1) that prices established by the parity formula would provide parity income to farmers, (2) that price relationships among the various farm products during 1910-14 should continue unchanged, (3) that farm prices in general were at a reasonably normal level in the base period, and (4) that there was a fair relationship between farm prices and non-farm prices at that time. The present governmental post-war farm-price support program, and any subsequent program related to parity price, is affected by the parity price formula, and any weaknesses therein will continue to have their effect on agriculture.

There are certain general weaknesses in the formula and other weaknesses which relate only to crop production and utilization.

First among the general weaknesses, it should be pointed out that the parity price formula, while providing for price parity on individual products does not necessarily provide income parity for farmers. Quantities of products sold and the amount of things bought by farmers to operate their farms are not taken into con-

* A paper presented at the annual meeting of the American Farm Economic Association, Chicago, December 28, 1945.

sideration in the parity index. The indexes of farmers' actual income and expense differ greatly from the indexes of prices received and paid. The ratio of total cash farm income to production expenses, or income parity ratio, shown in the accompanying table, differs by as much as 20 percent from the price parity ratio. Therefore the price parity ratio may or may not indicate farmers' economic well-being. The writer also wishes to express his objections to the indexes of farm and non-farm per capita net income, published in certain U.S.D.A. publications. They are grossly misleading. The base value for farm persons is \$134 compared with \$488 for non-farm persons. An index of say 200 in each case, means \$268 per capita farm income, and \$976 for non-farm persons. Obviously the base values are not comparable.

Perhaps one of the most serious weaknesses in the parity price formula is the use of the 1910-14 base period. Using such a historical base period freezes price relationships to what they happened to be thirty years ago. We are living in a dynamic society, and freezing price relationships to any long past period discourages adjustments by farmers which would make for more efficient use of land, labor, and capital. Moving the base period to a more recent date would help in obtaining more desirable price relationships. Some progress has been made in this direction but it has been a piecemeal job. Some procedure should be set up for continually moving the base period forward. This would reflect adjustments being made in prices as a result of changing conditions.

The items included and their weighting in the farm cost index need reconsideration. There is no good reason why labor should not be included as one of the items; the fact is, hired labor is one of the larger production expenses. Many important changes have occurred in the kind and amount of things used in operating farms in the last thirty years. Even in the last fifteen years, there has been a marked increase in the relative importance of feed purchases. Taxes and payments on farm mortgage interest have become relatively less important. These changes should be recognized in the index of prices paid, interest, and taxes.

A weakness that shows up especially on crops, and probably the most important one, is the disregard by the parity formula of the variation in the rate of technological progress in the production of the various crops. Changes are constantly taking place in production methods which affect cost per unit of product. New crop

TABLE 1. SELECTED INDEX NUMBERS RELATING TO U. S.
AGRICULTURE, 1910 TO 1944
(1910-14 = 100)

Year	Income		Expenses		Ratios		Agriculture Production
	Prices Rec'd Farmers	Cash Farm Income	Prices Paid, Int. & Taxes	Total Production Ex- penses	Price Parity Ratio	Income Parity Ratio	
1910	102	98	96	93	106	105	96
11	94	94	100	94	94	100	100
12	99	101	100	100	99	101	103
13	102	105	102	104	100	100	98
14	101	102	102	106	99	96	104
1915	99	108	107	109	93	99	104
16	118	130	125	125	94	104	100
17	175	181	148	159	118	114	103
18	204	227	173	195	118	116	109
19	215	246	198	219	109	112	110
1920	211	212	202	236	104	90	111
21	124	137	165	173	75	69	101
22	132	145	164	177	80	82	110
23	143	161	167	184	86	87	114
24	143	172	167	194	86	89	118
1925	156	185	169	193	92	109	117
26	146	178	168	194	87	92	121
27	142	181	166	195	86	93	118
28	151	186	168	203	90	91	123
29	149	190	167	201	89	94	119
1930	128	152	160	182	80	83	118
31	90	107	142	142	63	73	123
32	68	80	124	118	55	68	117
33	72	*89	120	113	60	78	116
34	90	107	129	122	70	87	113
1935	109	119	130	132	84	90	111
36	114	141	128	144	90	98	113
37	122	149	133	158	92	94	123
38	97	129	126	148	77	87	124
39	95	133	124	141	77	94	129
1940	100	141	125	164	80	86	133
41	124	189	132	191	94	99	136
42	159	259	150	238	106	108	151
43	192	326	162	277	119	117	154
44	195	334	170	288	115	116	158

* Government payments included from 1933 to date.

varieties are introduced which increase yields. Cultural practices, management methods, new machinery and equipment are brought

into general use, all of which improve efficiency of production, but *not at a uniform rate in all crop enterprises.*

Cost account data on a group of New York farms covering a twenty-nine year period, 1910-14 to 1939-43, show that yields of some crops on farms of cooperators have increased as much as 100 percent while others have shown a decline (tables 2 and 3). In some crops there has been a marked reduction in hours of labor per acre, up to 50 percent, and in others little change. In all crops reported there has been a reduction in the hours of direct labor used to produce a given quantity of the crop. The rate of reduction,

TABLE 2. TREND IN YIELD AND LABOR REQUIREMENTS.
COST ACCOUNT DATA FROM NEW YORK—(BULLETIN 439)

Item	1914-18	1924-28	1934-38	(no 1941 data) 1939-43
Corn Silage—Yield—T.	6.1	7.9	8.9	8.7
Hrs. per A.	37	35	34	29
Hr. per T.	6.1	4.4	3.8	3.3
Oats —Yield—bu.	36	43	32	35
Hrs. per A.	23	19	15	13
Min. per bu.	38	27	28	22
Wheat —Yield—bu.	24	22	27	29
Hrs. per A.	25	18	15	12
Min. per bu.	62	49	33	25
Beans (navy) —Yield—bu.	10	10	14	14
Hrs. per A.	37	27	27	27
Min. per bu.	222	162	116	116
Potatoes —Yield—bu.	111	150	191	227
Hrs. per A.	91	85	79	87
Min. per bu.	49	34	25	23
Alfalfa —Hay Yield—T.	2.6	2.3	2.0	2.2
Hrs. per A.	26	18	12	11
Hrs. per T.	10.0	7.8	6.0	5.0
Other Hay —Yield—T.	1.5	1.6	1.5	1.7
Hrs. per A.	10	9	8	8
Hrs. per T.	6.6	5.6	5.3	4.7
Milk —Prod.—cwt.	63	71	83	83
Hrs. per cow	145	145	142	131
Hrs. per cwt.	2.3	2.0	1.7	1.6
Eggs —Prod.—eggs	87	119	148	162
Hrs. per hen	1.6	2.0	1.9	1.7
Min. per doz.	13.2	12.1	9.7	7.6

however, even in a state where the maximum reduction has not been made in some crops, varied from 38 to 60 percent for individual crops in the twenty-nine year period.

In connection with a study of farm adjustments on cornbelt farms¹ covering a similar period, 1910-14 to 1938-42, the change in labor efficiency on different types of farms was determined. On

TABLE 3. INDEX OF YIELD AND AMOUNT OF TIME SPENT—N. Y.
(1914-18=100)

Product		1914-18	1924-28	1934-38	1939-43
Corn-Silage	—Yield—T.	100	129	146	142
	Hrs. per A.	100	194	92	78
	Hrs. per T.	100	72	63	54*
Oats	—Yield—bu.	100	119	89	97
	Hrs. per A.	100	83	65	56
	Min. per bu.	100	71	74	58*
Wheat	—Yield—bu.	100	91	112	121
	Hrs. per A.	100	72	60	48
	Min. per bu.	100	79	53	40*
Beans (Navy)	—Yield—bu.	100	100	140	140
	Hrs. per A.	100	73	73	73
	Min. per bu.	100	73	52	52
Potatoes	—Yield—bu.	100	135	172	204
	Hrs. per A.	100	93	87	95
	Min. per bu.	100	69	51	47
Alfalfa	—Yield—T.	100	88	77	84
	Hrs. per A.	100	68	46	42
	Hrs. per T.	100	78	60	50
Other Hay	—Yield—T.	100	107	100	113
	Hrs. per A.	100	90	80	80
	Hrs. per T.	100	85	80	72
Milk	—Prod.—cwt.	100	112	131	131
	Hrs. per cow	100	100	98	90
	Hrs. per cwt.	100	87	74	70*
Eggs	—Prod.—Eggs	100	136	170	186
	Hrs. per hen	100	125	118	106
	Min. per doz.	100	92	73	58

* The percentage change in the amount of labor required per unit of product in the case of corn, wheat, oats, and milk on the above farm in New York compares closely with the figures given for the United States for a 23 year period ending in 1936 as published by J. A. Hopkins in *Changing Technology and Employment in Agriculture*.

¹ Wylie Goodsell, U.S.D.A. Circular 688, *Farm Adjustments and Income on Typical Corn Belt Farms*.

cash-grain farms, where there has been much mechanization, labor efficiency in the latter period was 97 percent higher than 28 years earlier. On the farms where the major enterprises were livestock, the increase in labor efficiency ranged from 20 to 30 percent.

A comparison of the trend in hours of man labor per unit of production on different crops for the United States as a whole based upon data compiled by John A. Hopkins in his work on the National Research Project shows wide variation among crops, small grains and corn showing marked increase in efficiency.

Cotton yields in the United States in 1939-43 were about 50 percent higher than fifteen years earlier and the cost per pound one-third less, in spite of higher prices on cost items. It is evident that setting prices for all crops at about the same percentage of parity will not result in a balanced agricultural production, because the production of those crops with the greatest increase in efficiency would be the most profitable, and their production would be expanded, for example, cotton and wheat.

Presumably one of the functions of the parity price formula is to guide the production of individual crops in accordance with current needs. This can not be done as long as prices of all crops are supported at about the same percentage of parity. To do so results in excess production of those crops in which greater increases in efficiency have been made. This excess production is paid for at more than market prices at public expense and it is then stored at public expense. Following a rigid parity formula results in the flooding of public granaries with those products where greater increases in efficiency have occurred. To continue to pay similar parity support prices in view of large holdings does not make sense.

There have been long-time trends in the demand for various farm products. Per capita consumption of some products has declined, and in others there has been a definite increase. The character of foreign demand for farm products has also materially changed over a period of years. These changes in the demand for farm products are not taken into account in the parity price formula.

Freezing price relationships as they were thirty years ago discourages adjustments by farmers in the use of their agricultural resources in the production of crops. Shifts in the kind of crops grown which would result in a more efficient use of land, labor, and capital are not made. The incentive to improve efficiency in the production of some crops is not as strong as it would be if we had

a market in which the prices were set more nearly in line with current production efficiency.

Insisting on support prices for all crops at about the same percentage of parity reduces market outlets. Such a policy prices some products out of the foreign market and encourages the substitution of other products at home. For instance, the parity price on cotton largely eliminates this country from the export market, invites competition from synthetic fibers, and in the end greatly reduces the market outlet for a crop adapted to southern agriculture. This represents a real loss to agriculture.

No regular procedure or technique is provided for recognizing the carry-over and current production of crops in the support prices. Apparently little can be done under the present parity set-up to bring demand and supply factors into balance. Crops in which there has been marked increase in efficiency of production, and which have a support price the same as crops with little increase in efficiency, are produced in greater abundance than needed, because of their relative profitability, and the government continues buying the excess production at the set price.

PARITY PRICES*

O. C. STINE

Bureau of Agricultural Economics

EQUALITY of purchasing power for agriculture is the objective of parity prices for farm products. The purchasing power of farm products should be sufficient to provide opportunities for farm family living comparable to those enjoyed by families not on farms and to develop the productivity of the farm. It is recognized to be in the national interest to maintain the farmer market for the products of industry, and not only to maintain but to develop the agricultural resources of the country. Parity price measures have been adopted as the best available measure of equality of purchasing power for agriculture.

In the years that followed the first World War, when parity measures were being considered, changes in price relations were commonly used as measures of changes in purchasing power. Marked changes in the general price level were accepted as inevitable, but it was observed that the prices of farm products declined much more rapidly and farther than the prices the farmer had to pay for goods and services. The farmer was not so much concerned with or affected by the changes in the level of all prices as by the relationship between the prices he received and those he paid. To provide measures of price relationships it was necessary to construct index numbers of the prices the farmer paid for goods and services used in production and living with which to compare the prices he received for his products. It was necessary also to select a base for making such comparisons; and the best base available at that time was in the prewar years 1909-14. This period was accepted generally as a period in which the price relationships among the several farm products were more stable than in any other period for which farm price data were readily available, and a period in which the relationship between prices farmers received for their products and the prices they paid for what they bought was fairly stable, and, in many farming areas, satisfactory.

Notwithstanding the fact that some have expressed the view that price relations in 1910-14 were too favorable to farmers, and despite

* A paper presented at the annual meeting of the American Farm Economic Association, Chicago, December 28, 1945.

the fact that the average of the prices of all farm products reached parity in 1925 and remained close to that level for a few years, pressure for farm relief continued through the 20's. The conditions giving rise to the pressure for farm relief in these years arose out of (1) prices of some of the important products sometimes considerably below parity, (2) the carry-over of a heavy debt burden from the war years, (3) the high rate of taxes, and (4) the relatively higher level of returns to industrial workers. In other words, parity prices, as measured by the relation of the average of the prices of all farm products to prices farmers had to pay for goods and services in the industrially prosperous years following the first World War did not really provide parity of opportunity for living, conserving, and saving on the farm.

The first national farm relief measure designed to improve farm conditions by maintaining prices was enacted while the prices of farm products were not far below parity but declining. The depression which followed demonstrated the inadequacy of this first effort, and reinforced the pressures for action to support the purchasing power of farmers. The first legislative formulation of national policy relating to parity was in the act of May 1933. In that act it was declared to be the policy of Congress to

... reestablish prices to farmers at a level that will give agricultural commodities a purchasing power with respect to articles that farmers buy, equivalent to the purchasing power of agricultural commodities in the base period.

This was the starting point for a national agricultural program to reestablish and maintain the purchasing power of farmers as a contribution to maintaining a sound national economy. While the principle remains the same, the specific measures have been modified greatly to meet changing circumstances.

Significant changes in the parity price formula and its application are summarized briefly as follows:

1. The original parity *index of prices of articles that farmers buy* has been modified and supplemented with changing the price bases of commodities and for special purposes. In 1935 interest and taxes were added for the products having a prewar base. In 1937 the Secretary of Agriculture was authorized to take into account the available supplies of feeds and other economic conditions affecting the market supply of and demand for milk in fixing prices in milk marketing agreements, and the Stabilization Act of 1942 authorized

taking into account the increase in labor costs after January 1941 in the fixing of maximum prices for farm products.

2. The bases of many products have been shifted or changed in recognition of changing conditions. In the first legislation a post-war base, August 1919-July 1929, was designated for tobacco; in 1935, potatoes was shifted to that base; and in 1938 this period—or some portion thereof—was authorized as a base for commodities for which satisfactory data were not available for the 1909-14 period. In 1940 the bases for Burley and flue-cured tobaccos were shifted to August 1935-July 1939.

The most significant legislation with reference to the parity base was written into law in 1941, providing for a comparable price for a commodity "if the production or consumption of such commodity has so changed in extent or character since the base period as to result in a price out of line with parity prices for basic commodities." Only the "basic commodities," wheat, corn, cotton, and rice remain bound to the prewar base. Parity prices have been calculated and published for 164 items of which only 61 remain on the 1909-14 prewar base. Nearly one-half of the items have bases in the 1919-29 period. However, those items which remain on the original base account for about four-fifths of the cash income to farmers.

3. The uses of the parity price formula have been greatly extended. While at first the parity index only indicated a goal to be approached as rapidly as feasible, it later became a yardstick for the distribution of parity payments, the determination of loan values, price fixing, ceiling prices, and support levels.

Some of the limitations or defects in the parity price measure of equality of exchange and its use as a yardstick with which to measure needs and accomplishments in dealing with agriculture have been recognized. It is apparent, of course, that purchasing power is determined by volume of sales as well as price. It is also recognized that the opportunity for living and saving depends upon net income, that is, total receipts less costs. Recognizing that equality of purchasing power is really determined by equivalent net income, a parity net income ratio was written into legislation in 1936 and continued with some modification in 1938. To date, however, no significant use has been made of the parity income measures.

Before the war, farmers had learned from experience that cur-

tailing production to a level that the volume could be sold at parity prices did not maintain income. Also, even without curtailment of acreages, when the yields were low, parity prices did not maintain income. The government, on the other hand, while being subject to criticism for not making good at providing either parity prices or parity income, was accumulating surplus supplies of some products, was faced with problems of the disposal of surpluses, and incurring costs of carrying some products for an indefinite period. The program was maintaining production of some products in the face of a declining demand for them. While a considerable amount of money was being spent on programs designed to readjust production from what was being produced in surplus to what was more wanted, the parity payments and support loans were encouraging the continuation of production at levels in excess of prospective demands.

War conditions changed the situation significantly in some respects. War demands resulted in prices advancing for many products to parity levels, and above. At this point, those who were concerned about inflation proposed to use parity prices as a ceiling. Parity prices were "fair prices." However in many cases a greater production was needed than would be provided at parity prices. In the meantime the demand for some products which were being supported by parity measures did not rise sufficiently to bring parity prices in the market. For a time the supports of the products of which the nation did not want more maintained production in spite of the fact that more of the resources involved were needed in other lines of production. Ceilings and supports above parity were necessary to obtain the more needed production of many items. Thus peace parities did not constitute proper war parities. Stated in another way, from a national standpoint changes in demand are important and should be taken into account in any national program relative to farm production.

Summarizing briefly: experience has demonstrated the necessity of changing the parity measures with changing conditions, with the objectives remaining the same. Although the index of the prices of articles that farmers buy has remained practically unchanged, it too needs modernizing to take more fully into account the great changes in both the character of the goods and services used in living and production and also the volume of such items. The base prices of the several commodities should be adjusted so as to reflect

changes in the conditions of both supply and demand for the commodity in relation to all other farm products. The parity price for each commodity should be defined in terms of price for a normal supply, to take into account variations in yields and in the accumulations of supplies. The application of parity price measures should take into account, with respect to the several commodities, the conditions of production and the combination of enterprises on farms in their relations to parity income. The application of a parity price determination also should take into account the prospects as to national requirements in the future as well as the conditions of the past.

AGRICULTURAL ECONOMISTS AND PUBLIC OPINION*

L. J. NORTON

University of Illinois

I DID not wish to give this talk. The omission of presidential addresses at our meetings has become more or less traditional. Mr. Jasspon, who donated the prize money for our price policy contest, had agreed to come and speak on this occasion. A few weeks ago he told me that a trip to Buenos Aires in connection with the work of the Combined Food Board would prevent his being here. I regret that he is not present for two reasons. First, he would have a message for us. And second, I would like to have him here to honor him for his generosity. When I found that Mr. Jasspon couldn't be here, I tried to get several persons to accept this assignment. Finally, I gave up and decided it would be simpler to attempt it myself.

My experience during the past year in connection with our price policy contest has forcibly brought to my attention the necessity for professional farm economists to put their ideas into language that the public can understand. If our views are to have wide acceptance we must write for the public as well as in academic language for more specialized groups.

The Land-Grant College Report on Postwar Agricultural Policy includes the following statement: "One of the most urgent needs of agriculture is a means of assuring that the programs and policies adopted are those which reflect the needs and wishes of local people."

I take no exception to this view but wish to point out certain implications. To accomplish this objective would require that the needs and wishes of local people be made articulate, that some ways and means be found for these views to be heard by those responsible for policy making. Presumably this could be done in two ways: (1) by direct contact with legislators and those responsible for carrying out programs. For the vast majority of people such contacts are rare. (2) Or through representation by various organizations. Call these pressure groups, if you like. Most contacts with legislators and administrators are made and will be made through organizations of one sort or another. A democracy develops this

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method of providing for the expression of the interests of various groups.

If people's views are to be recognized in dealing intelligently with complex economic and social problems their views must be well-considered and must be based on broad and sound information. Not but what crack-pot and ill-conceived ideas may not get a following and reflect the believed "needs and wishes" of large groups of people. They can and do. I submit that this is unfortunate and that, if sound policies are to emerge in a democratic country and these policies and programs actually reflect "needs and wishes" of local people, then the people must have an informed basis for decision.

If this view is correct, it puts a heavy burden of responsibility on agricultural economists and other social scientists. Such groups must do an adequate educational job. They must present the public with complete and accurate information and sound interpretations. Not that educators can or should attempt to do people's thinking for them. But we do have the responsibility for providing the facts needed as material for such thinking.

I therefore ask this question: Are we individually and as a group doing an adequate job of acquainting any substantial part of the public with an adequate amount of information in our field?

One program related to agriculture has seeped into the thinking of many groups of people. I refer to conservation. It is remarkable how widespread interest in this subject has become. How was this idea promoted? Perhaps we should examine the techniques used and apply some of them to our field.

In the purely economic sphere the idea of parity is also widely accepted—not only by farm people but also by many other groups.

Both these words—*parity* and *conservation*—convey meanings which seem to find a favorable response. I suspect that the words themselves have something to do with the widespread acceptance of the ideas they convey.

Can economists find words to describe sound policies that meet a similar favorable response? Economists have suffered in public opinion from being identified with unpopular solutions to problems. Not so many decades ago economics was "the dismal science." I am not saying that this was a fair characterization. But it was made. People will not pay too much attention to what they sense to be painful solutions to problems. I am not arguing that we should

avoid realities. In any economic system there are hard facts which we must meet squarely. But it should be possible to put economic goals into less harsh and dismal terms than are often used. After all we are still living in an expanding economy. Setting a goal of freedom to produce maximum quantities of desired goods for a strong and vigorous market is a goal which will appeal to most farmers. They still like to grow big crops. It will also appeal to the public. They desire to be well fed.

Economic ideas also suffer in the mind of the public by often being stated in an elaborate and abstract form and in a vocabulary beyond the range of comprehension of many people including some professional agricultural economists. People distrust what they do not understand. I am not arguing against analysis of complex questions. There are important and difficult questions that need solution. But why cover up the findings in unintelligible terminology? There is no problem so complex that the answer cannot be stated in clear, simple language that the ordinary man can understand. People have a clearer understanding of the working of an atomic bomb than they do of many economic questions. To reach the public with sound economic ideas the best scholars in the field must translate their ideas into simple understandable English.

Another limitation on wider understanding of economic facts and principles is the common tendency for warring camps to develop among the workers in this field. The public gets confused by the quarreling and decides that a subject where so much disagreement prevails cannot have much to teach them. There are too many brands of fundamentalism among us, too little tendency to appreciate that we are dealing with very complex situations involving many facts, and too little recognition that there may be some truth in the other man's point of view.

I am not arguing against the need for criticism—sharp, hard criticism and more of it than now exists in our field. Only by intelligent criticism can ideas be tested and refined. On a professional level there should be more of it. But in dealing with the public we need more agreement on the simple fundamentals and a more tolerant spirit than exists between some groups in our field. To go back to conservation, specialists quarrel over details but they are in close enough agreement on fundamentals to cause the public to believe in these ideas.

I suggest that on a few fundamentals agricultural economists

agree and present a solid educational front. If we could do so, I have no doubt that these ideas would soon be accepted by many people. Such ideas should be soundly founded; they should recognize all known facts; they should not represent mere wishful thinking. The mere act of agreement would be news because the public has come to expect disagreement among economists.

I am not going to bore you with any detailed outline of educational procedures. A sound program stated in simple terms with some emotional appeal could be spread in many ways.

Large groups of our members do not work in the field of policy, but in farm management, marketing, finance, price behavior or other specialties into which farm economic problems are classified. These are all important fields and much valuable work is being done. To find out the facts about any economic problem related to agriculture is valuable and to uncover all the relevant facts is not easy. It is the fashion to minimize the importance of description and to applaud analysis. Until you have all the facts, which I take it is the process of description, analysis is not very valuable. We need much more search for facts on all sorts of problems before we will have final answers in many fields.

This is true also in the specific field of government policy in connection with farm prices and income. We need much more research into the basic problems. But at any particular time we must state tentative conclusions if the public is to pay any significant attention to us. This is as true whether we are talking about the economics of the size of farm or the cotton price policy of the United States government.

The price policy contest brought to light a great many ideas. It indicates that considerable research has been done. Nevertheless the scope of the entries indicate that a large part of our membership has not given the subject much consideration. This is not said in criticism, for the special interests of most of our members lie in other fields. I am sure that the contest has and will stimulate further research in this field. I know it has caused me to consider more closely some of the fundamental issues involved.

Where does our thinking on price policy stand today? I do not wish to encroach on the men who are to follow me on this program, but I would like to make a few observations based on my review of the prize winning papers. These papers were reviewed from a more technical standpoint this afternoon by Dr. D. Gale Johnson.

What do I feel these men agree on? I wish to list a few fundamentals that might form a basis for general agreement.

1. They favor freedom in production of farm products.
2. They favor greater freedom in farm prices than will prevail under existing regulations.
3. They favor general measures to maintain a high level of national income, full employment, etc.
4. They favor revision of the present out-of-date parity formula.
5. They favor some method of supporting a minimum level of farm income.

On methods of accomplishing some of these aims and on some other questions of policy there is disagreement, I submit the above list as a starting point for discussion of a positive program on which we might agree. Such a program would strike a favorable note of response with large groups of the public—both in the country and the city. Furthermore it represents a list of goals which can be justified by the basic facts that underly the economics of agriculture. Admittedly it is a simple list of points, but so are the basic concepts in any field in which the needs and wishes of local people actually help to shape policies. From such a starting point much research and discussion over details would be necessary.

DISCUSSION*

ARTHUR MOORE

Editor, The Prairie Farmer

TWO things stand in the way of a more vigorous and effective participation by agricultural economists in the issues of the day. Both have been mentioned by your President, Dr. Norton.

One is language—your choice of words. Right choice of words is merely craftsmanship. I am not qualified to dwell on it and it would be out of place if I were, except to say that I have had some experience in writing on economic matters and I know the limitations of the layman. I agree with A. N. Whitehead that in our society the best minds tend to become specialists, increasingly unable to unify knowledge as they become expert in some chosen field; and that this most important task of unifying knowledge, when it is performed at all—which is rarely—is left to second class minds. In short, to writers and farm editors.

I urge your personal participation in the art of communicating ideas to the common man. And if you can't explain your ideas—let us say to the average farmer—then there is something wrong with the idea, not the farmer. Or else your idea is not ready for the realm of public policy at all.

Dr. Norton also mentioned the necessity of obtaining unity on the fundamentals. Perhaps you think this would be difficult. I disagree. Your differences are not as important as your agreements. If you think agricultural economists disagree—did you ever hear those calm, objective, fact-loving physical scientists, the agronomists, discuss—in their objective manner—the subject of 8-8-8 fertilizer applied at the plow sole? The last time I heard them, the chairman finally restored a semblance of order by leaving the platform altogether. Or perhaps he left the platform because he wanted to get into the fight. I'm not sure. And yet despite such disagreements there is enough unity among them so that they exercise a tremendous—really a dominating—influence on both the fertilizer industry and on farmers. There is a great area of agreement among you. Noble Clark touched this in a recent paper before the county agents' association—a paper, which you should read if you have not already done so. It is one of the most power-

* A paper presented at the annual meeting of the American Farm Economic Association at Chicago, December 28, 1945.

ful and most persuasive statements I have yet seen of the need for scholarly leadership in the field of agricultural policy. Mr. Clark cited the following subjects as possibilities for leadership:

The fallacies of the two-price system.

The weaknesses of the philosophy of a restriction as a means of creating wealth.

The limitations of price rises as an agricultural policy.

Surely on such matters agricultural economists could present a united front, perhaps in a series of statements similar to the report of the Committee on Postwar Agricultural Policy of the Association of Land Grant Colleges. The promised report of your own committee on parity concepts will be valuable; it would be more valuable if it ever becomes more than a committee report . . . if it becomes the voice of this association.

If you act along the lines suggested by your President, taking the leadership which by training and experience is yours, you will be struck, I think, by two things. First, the opposition to your views will be smaller and weaker than you now expect. As a farm editor, I know that our people are looking for leadership. They were uncomfortable under the policy of restriction and depressed by what they could so plainly see before the war—that the ever normal granary would be ever abnormal. They will not be satisfied to return to this philosophy. They are groping for a way out of agriculture's dilemma which is more in line with their own production philosophy. They want to be free to produce—as free as possible. As your President has said, there is common ground between your production views and the farmer's production views. Indeed, in this respect, you are closer to farm thinking than some organization leaders and congressmen.

The second thing which may surprise you if you boldly enter the field of public policy as leaders will be the swiftness and the decisiveness of the results. Do not under-rate your power.

There is a great deal of truth in what John Maynard Keynes has said. "The ideas of economists and political philosophers are more powerful than is commonly understood. Indeed, the world is ruled by little else. Practical men who believe themselves to be quite exempt from any intellectual influences are usually the slaves of some defunct economist. Madmen in authority who hear voices in the air are distilling their frenzy from some academic scribbler of a few years back." Let me warn you. If you do not thrust your

facts and conclusions into public discussion in an effective manner—and do it now—even the youngest of you is already a defunct economist . . . an academic scribbler of a few years back. In these times, one can become a defunct economist over night, so swiftly are we moving.

We are in an era in which economics, no less than physics, has its atomic bombs. We know how to produce results by price manipulations, for example. Look how the Nazis kept the German farmer placidly in line by price control. Robert B. Schwenger in his paper last night mentioned other economic tools which can be used either for great harm—or great good—in international relations. *These are techniques of terrific power*—deadly explosives. And they deal with human lives. As in the case of atomic power, we must ask: Will we use wisely what we can create? We *are* moving swiftly. We *are* moving into a new agricultural era.

Agricultural economists will either lead the way into it or will be dragged into it. For the sake of us all, I hope you lead.

EXTENSION USE OF FARM WORK SIMPLIFICATION*

ROY E. PROCTOR
University of Kentucky

AGRICULTURAL leaders, especially those in agricultural economics, have reached fairly general agreement during the past 2 or 3 years on the meaning of Farm Work Simplification though they may still dispute the full suitability of the name. The possibilities for further farm progress, through simplifying farm work, are appreciated by both leaders and laymen. Both the research on this subject and the acceptance of findings have been given much impetus by increased war demands for farm products and the parallel reduction in farm manpower. As with most all research the pay-off to our total economy is the producers' acceptance and application of its meritorious findings. It would seem, therefore, that the Extension Service has an opportunity to accomplish much by giving farmers and homemakers information on Farm Work Simplification.

If anyone objects to the title used, it is well to remember that some other definitive title may be just as good as Farm Work Simplification, just so the concept indicates an easier and more economical¹ procedure for getting work done. So long as this title implies such a concept there is merit in maintaining the title which has already had wide publicity. The writer maintains that Farm Work Simplification, as thus defined, is a concept worthy of wide use by the Agricultural Extension Service. Undoubtedly its use is not limited to the field of farm management, but it definitely has a very pronounced place in farm management extension.

In 1943, Dr. E. C. Young said, "The field of farm job analysis offers tremendous opportunities for research and teaching in an area that is comparatively undeveloped."² We are all greatly pleased and impressed with the enormous strides he and his colleagues have made in developing techniques and uncovering great deposits of labor economy in this, heretofore undeveloped, area. Though research in analyzing farm jobs is still in its infancy, an important body of striking facts has been uncovered. It is our job

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¹ This is meant to imply greater value of output per unit value of input of labor, materials and equipment or any single or any combination of productive factors.

² This JOURNAL, Vol. 24, No. 1, p. 235.

in the Extension Service to cooperate fully with our research associates in understanding their discoveries, and then to assist farmers, as rapidly as possible, to become acquainted with these research findings.

However, research has no monopoly on such findings. Farmers themselves, by applying some of the methods used in research to find easier and more economical procedures for doing farm work, may discover their own ways of greatly simplifying methods and reducing the labor and materials expended and the equipment used. It is the further job of extension workers to explain these principles and their application to farmers and then to call to the attention of research workers, for further study and refinement, many such findings by farmers. This will implement a flow of ideas both ways between farmers and research workers.

All of this means that the Cooperative Extension Service has an urgent responsibility of assisting in two directions. The first is to carry to farmers the "pre-packaged" discoveries of research on farms so that more farmers may employ such techniques and methods as are contained in the specific findings. The other is to teach farm people the methods of questioning their present procedures, so as to discover for themselves easier ways of doing farm work by the job analysis methods.

The writer and his associates in Kentucky do not claim to have fully answered the question of how to teach work simplification. Three approaches, however, have been used and all of them have been graciously received by farmers.

The *first* approach, or introduction, was in the form of general county-wide meetings to define work simplification and to show some values of simplifying farm work. The County Agent took the lead in giving publicity to get farmer attendance. At each meeting the discussion centered around time and motion economy. The sound motion picture, "Farm Work Simplification" was shown to inspire farmers to look for labor economies on the "home farm" and some additional movie, showing a local farm job made easier, was used at each meeting. Selection of the enterprise in which that county was most concerned was possible by having films about tobacco, strawberries, hay, dairy cattle, swine, power machinery or apples. In rare cases two of these movies were shown at the same place. Simple devices which could be duplicated in the farm shop and which would make farm jobs easier were displayed and ex-

plained. The discussion, usually led by the writer, was centered around the thesis that there is something farmers can do to increase production in face of labor shortages.

That farm people are greatly interested in learning about Farm Work Simplification was evidenced by attendance, attention and discussion. Slightly over 5000 farm people attended meetings in 52 counties in February and March, 1945. The enthusiasm and inspiration of the people at these introductory meetings spread from farm to farm and to other counties so that by April, when such meetings were concluded, many requests had to be denied.

The *second* approach was to present in "pre-packaged" form the easiest way to transplant tobacco. Motion pictures prepared by research workers were carefully studied and culled and then the important teaching sections duplicated as a coordinated story. Charts were printed and instructions were mimeographed for use by county agents and emergency farm labor assistants in holding meetings with farmers. These county extension workers in each area were given one day of training in the use of specific movies, charts, demonstrations, and other teaching media. They in turn carried the "pre-packaged" work simplification ideas to farm groups. In 94 counties 631 meetings were held with an aggregate attendance of over 15,000 farm people. This experience convinced the writer that he was not needed at farm meetings, but that his efforts were more greatly rewarded by preparing materials for county workers and training such workers to use the teaching devices and methods more effectively.

The *third* approach involved the same extension procedure of equipping and training county workers with the added feature of teaching methods of job analysis. Again movies were used, but with a different approach, in that the usual methods of harvesting tobacco were shown first. Then, in various progressive steps, it was shown how analyzing the job led to improved methods. For example, in placing sticks to receive tobacco as cut, some farmers drive one end of the stick in the ground with a hammer. To avoid this extremely slow method, it was shown that on other farms time was saved if the sticks were pushed in the ground. No hammer was needed and each stick could be placed as needed. By further analysis of methods used it was shown that the energy of pushing the stick could also be eliminated by giving the stick a quick jab into place. This proved to be faster as well as easier. Likewise,

various steps of placing tobacco on sticks involved many waste motions. The question, "Why throw the top end of the plant clear over the upright stick before pushing it on the spear?" led to leaning the stick forward. Then by using a circular motion and striking the plant on the spear the entire plant was never lifted more than waist high. Speed and ease were thus gained by careful analysis and the steps of such analyses were shown and discussed. The fastest and easiest methods were finally shown. This was the basis for a discussion of how farmers may look for opportunities to simplify other jobs. In 89 counties over 30,000 farm people attended these meetings. This only approached Job Methods Training. However, farmers are already using this approach to solve many problems regarding the wise use of labor and machinery.

The well-known extension activities centering about farm layout, enterprise selection, and volume of business are receiving renewed interest as these broad farm organization subjects are made more tangible. With the Farm Work Simplification approach the whole field of farm management can be broken down into segments small enough for every farmer to want to take part in some phase of improving his farm organization and management. Only a short time ago many farmers claimed that the subject of farm organization and management was too voluminous for ready comprehension. There is no farm so small or so large or so highly developed that some of its work methods cannot be made easier and more effective. This gives almost unlimited breadth to extension possibilities in this area and adds to the scope of desirable research and teaching.

The problem before us, then, is to refine the extension approach to the end that the findings and principles of Farm Work Simplification may have wider farm application. This involves close cooperation of extension workers, research workers, and college teachers in their associations with farm people.

The three extension approaches which have been used in Kentucky may be analyzed briefly. No doubt there are other areas where the general meeting has a place for inspiration and introduction. In such cases the weak link may be county workers' fear of ridicule for extravagant claims in giving publicity. If a few good illustrations of labor economy on local farms can be given, courage will rise rapidly. One way to help make such an initial meeting give inspiration and courage to farmers is for the specialist leader to stay

in the background. Questions and discussion by farmers are thus encouraged. The leader is only reporting what farmers or researchers have found. It is a joy to do such missionary work and the leader renders greater service as he makes those present feel that any one of them can find multiple opportunities for solution of local problems. The limitation of this approach is readily understood to be the capacity of state personnel to do such work.

Farmers appear to accept and apply the findings and the principles of Farm Work Simplification most readily from their own local leaders. Therefore the second and third approaches, as used in Kentucky, have greater possibilities than the first. If any research staff has perfected methods of doing a sufficient number of jobs, the second approach appears to be the most effective. Farmers hesitate to undertake job analysis without first having had considerable "schooling" in the methods of such analysis. Furthermore, it is difficult to get them to attend a "school" to learn a method of analysis. This immediately limits the opportunity for teaching Job Methods Training to farmers. Once a great number of farmers have seen how simple some jobs become (after JMT principles and analysis have been carefully applied by research) it becomes easier to teach them principles which they themselves may apply. Therefore, careful research is a prerequisite to this approach of teaching Farm Work Simplification.

The next important point is to extend the effectiveness of the leaders' efforts by thoroughly training the county workers to hold their own meetings. There may be less glamour for the extension specialist or Farm Work Simplification leader in training county workers to "put on his show" than for him to meet with large farmer groups. However, this is the very kernel of a successful method for rapidly overcoming the apathy of farmers toward changes and for making their actions more efficient. Two solutions, then, to the problems that confront extension workers are, (1) sufficient research findings, and (2) the capacity to train adequate local leaders to carry such findings to the rural population. Furthermore, if skilled operators who have actually learned the new method for a given job are not available for the demonstrations, the use of motion pictures may become essential.

Kentucky has not tried the complete JMT approach. As set out above, it has been approximated by showing how changes grew out of questioning the usual methods of procedure. Even this

approximation has its disadvantages. Unless most of the farmers have seen proof of results by the "pre-packaged" findings, interest is likely to lag as they follow through the analysis. However, as Farm Work Simplification becomes more mature and as more and more farmers get acquainted with it, the JMT approach should have boundless opportunities. What can be of more service to farmers than to give them ideas, through which they can help themselves avoid fatigue and useless motions and reject methods, plans and equipment that are inferior to other opportunities which are within their reach?

In conclusion we need to acknowledge that research leaders of Farm Work Simplification have placed an opportunity before workers in Cooperative Extension Service that is a real challenge. We dare not reject the challenge if we possess the Extension philosophy of service. Our problem is not whether to accept the challenge but rather to determine what approach we will use and how rapidly we can acquaint producers with the great possibilities it has. To one farmer it may mean principles of selection and utilization of highly mechanized equipment. To another it may mean simple mechanics to replace human effort. To still others it may mean avoiding unnecessary steps, motions, or uncomfortable positions that cause undue fatigue. In all of these cases we are concerned with plans, layout, quality of work and net gains.

Some of us are concerned with wiser procedures for getting new discoveries put into practice. We are eagerly looking to research for principles and facts to pass to farm operators, managers and hired farm workers. Let us be grateful for the Farm Work Simplification concept and make rapid use of it by clarifying the approaches to its use.

AN ANALYSIS OF WORK SIMPLIFICATION RESEARCH METHODS AND RESULTS†*

LOWELL S. HARDIN AND R. M. CARTER

*Purdue University
University of Vermont*

WORK simplification research is the systematic analysis of work methods by which the easiest, most effective and economical way to do a job¹ is searched out, developed, and put into use. The objective of such research is to develop improved work methods which maximize output while minimizing energy expenditure and cost.

Applied to agriculture, work simplification research gives new and proper emphasis to the human side of farm work—the physical activity, comfort, and safety of the worker. The many factors which influence the ease and efficiency with which farm jobs are done are jointly considered—the worker's activity, equipment, location and layout of facilities, and production process and practices. Adequate consideration of these factors, as with many farm management and operation problems, frequently requires the combined talents of specialists from many subject matter fields.

Research Pattern

A general pattern of farm work simplification research procedure is being developed. As a means of searching out and developing improvements, this research pattern is not new. Some of the techniques employed in the various research steps, however, are new to agriculture. Essentially, five steps are involved: (1) state the problem and collect input-output data for existing methods; (2) classify and analyze the data; (3) formulate hypotheses as to how the work methods may be improved; (4) check and validate hypotheses; and (5) make available by approved techniques any discoveries or developments. The following techniques for accomplishing these five steps are still in the formative stages and are by no means final. As the research progresses, the techniques should be sharpened and perfected.

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† A paper presented at the annual meeting of the American Farm Economic Association, Chicago, December 28, 1945.

¹ A "job" is defined as any definite, complete piece of work, such as milking or feeding the hogs.

1. *Stating the Problem and Collecting Data.* In farm work simplification research investigations conducted to date, the problems studied have been selected on an enterprise basis. Farm enterprises, such as milk, hog, and hay production, have been chosen for study because of their importance in the particular state concerned. While generally satisfactory, this means of selecting jobs for study frequently results in some duplication of research effort. Common to all livestock operations, for example, are the jobs associated with storage, preparation, and handling of feed. In determining the most economical methods of doing this work, all livestock enterprises—not just the hogs or cattle or poultry—should be considered. Thus, a study of feed storage, preparation, and handling, as related to the total farm business rather than to one particular enterprise, might be desirable. This suggests that major areas of work on the farm, such as feeding, grain handling, watering, and field work, rather than enterprises, might well be considered as units for study. Whether the enterprise approach or some other approach is taken when selecting problems for study, jobs chosen should generally be large consumers of labor or should present special production or labor difficulties.

Once the job, or series of jobs, is selected for study, the initial step is limited to the discovery and description of work methods in current use. A work methods survey which involves personal visits with farmers and observation of the work being done acquaints the analyst with existing practices, equipment, methods, and farmer attitudes involved in the job to be studied. This is a highly important step. Where job analysis was attempted without such a background study, much time was lost developing and testing methods already being used by farmers. Enough visits should be made in the preliminary survey to familiarize the researcher with the job itself and with the ways of doing it which are in current use.² The sample surveyed is usually selected to reveal as many differences as possible; it is seldom the intent of such a survey to determine average accomplishments or typical work methods and conditions. A work methods survey has several advantages:

² In a few studies, committees of farmers have been called together to describe and discuss work methods in common use. This technique may enable the researcher to discover variations in methods more quickly and easily than by making numerous farm visits.

1. It familiarizes the researcher with the farmers' problems and ideas.
2. It often insures farmer cooperation.
3. It provides a basis for selecting a smaller sample for case studies to follow.
4. It enables the researcher to collect a wider variety of ideas and methods than it is possible to observe during chore time or the work season.
5. It usually provides time for layout sketches,³ when needed, to be partially completed.
6. It enables a lone worker to obtain preliminary information. A larger research crew is often required to record observations and make process charts⁴ while the job is actually being performed.

Next, from the farms surveyed a group is chosen for detailed observation of the jobs selected for study. The sample group may not need to be large, because detailed case studies of an input-output nature are to be made. Since the objective is to seek out and develop an improved method of doing the work, the farms studied in detail are usually above average in efficiency or are users of special methods or equipment. Care should be exercised, however, that these cases represent personnel, organizational, and financial situations common to many farms in the region. Data from carefully made work methods case studies are usually more meaningful than averages from a large sample.

Process charts and layout sketches are important tools in the detailed case study. Objective measurements of area (acreage, distances, dimensions), quantities (pounds, bushels, tons, gallons), and time are made as the work progresses. The work process is broken into sub-divisions to the extent feasible for the work under study. That is, the process is divided into its component jobs. Likewise, the jobs are usually sub-divided into individual opera-

³ A scale drawing of the arrangement of facilities involved in the work process (farmstead, building, or farm layout) which shows locations, arrangements, chore paths, and other space relationships.

⁴ The process chart is sometimes called a job-breakdown. It is a chronological outline and description of the operations involved in doing a job. Distances traveled, quantities or kinds of materials handled, and time consumed are usually recorded alongside a brief word description of each operation. The original process chart is made by the researcher as he observes the worker or workers actually doing the job under study.

tions.⁵ Finally, on crew work or repetitive hand work, operations are sometimes further sub-divided into work elements.⁶ To obtain even more detailed data, original records are often made in the form of 16 mm motion pictures. From these the process chart can be made. Each job can be analyzed in as great detail as desired for time, travel, method, and accomplishment by projecting the film, one frame at a time, with a special projector.⁷

Gross cost estimates have also been a product of some of the preliminary surveys. Cost data on machinery use, labor rates, and building charges must be obtained while the researcher is on the farm, if actual dollar costs to the farmer are to be reported. Actually, the physical input of man and machine labor, the facilities, and the materials—the basic data of any cost computation—are obtained for all work methods studied in detail. Some attention to the immediate translation of these physical quantities into dollars and cents may be desirable.

2. *Classification and Analysis of Data.* In appraising the effectiveness of existing work methods both comparative and check-list analyses are made. Different work methods studied are compared on an input-output basis by calculating such factors as labor (time, machine work) per unit of output, travel per unit of output or per animal, and cost per unit. Advantages and disadvantages of different work methods which are not measurable objectively, as flexibility and ease, need to be listed. Quality of work may also be appraised, sometimes through the medium of samples of the product. A comparison of the number and kind of work elements entering different methods of doing work may reveal some of the reasons for differences in accomplishment. Proportion of time con-

⁵ An act performed as a part of a job is an operation. To do the job of feeding the hogs, for example, these operations may be performed: walk to crib, fill basket, carry basket of corn to hogs, empty basket, return to crib.

⁶ Work elements are subdivisions of complete operations. They are usually made up of as small a group of motions as it is possible to define in a few words or time accurately with a stop watch. A great variety of individual operations may be broken down into work elements, as: travel loaded, travel empty, work in place, unavoidable delay, avoidable delay, etc.

⁷ Fundamental motions, therbligs, are found in this manner. Several therbligs would enter into a work element, and a great many into most operations. While the motion picture camera provides an excellent means of collecting data, its use for job analysis research purposes should be restricted to the filming of operations where greater detail is desired than can be accurately recorded from direct observation. Film analysis has been helpful in agricultural studies of hand harvesting, processing and tobacco work.

sumed in delays, idleness, working in place, empty travel, and productive travel may be related to output.⁸

Such a comparative analysis of work methods may in itself provide farmers with data previously unavailable. It is essentially an extension of orthodox farm management techniques into detailed studies of individual jobs. The check-list analysis goes a step further. The tested principles of motion economy, effective utilization of equipment, good layout, proper flow of materials, and good work sequence, in themselves may explain why one method is easier, quicker, cheaper, or more effective than another. By systematically questioning each work method, either by actually using check-list questions or by sub-consciously applying the principles, the researcher compares observed methods with tested principles of effective work and good working conditions. Knowledge of the common-sense principles involved is more important than systematic check-list questioning.

3. *Formulation of Hypotheses.* If the analysis goes no further than to describe the most effective method found for doing a job and explains why that method excels, it may make a substantial contribution. Usually, however, opportunities exist for improving even the more efficient work methods observed, if some creative thinking is attempted. In this creative work, the researcher, from his observations, analysis, and knowledge of the principles of effective work, formulates hypotheses for the improvement of the better work methods which were observed. There are three means of developing new or changed methods.

First, a new method may be developed from the better parts of methods observed. Comparative analysis usually shows that no one farmer performs all of the jobs in a process or all of the operations in a job in a superior manner. Farmer A does part of the work well, while farmer B has a more efficient method of performing another part of the work. Therefore it is possible to synthesize a new work process or a new way of doing a job from the better parts of observed methods studied in comparative analysis.

⁸ An Indiana study of tomato picking methods revealed that 70 percent of the expert picker's time was consumed in moving the hands from vine to picking container and from container to vine (hand travel loaded and hand travel empty). An improved method was developed to decrease this travel requirement. Faulty crew organization and work methods were responsible for individual members of a Kentucky tobacco harvesting crew spending as much as 75 percent of their time on "avoidable delay."

Second, the routine check-list analysis often suggests possibilities of improvement. Innovations such as elimination of unnecessary operations or delays, combination of separate elements into a new operation, and sequence rearrangements usually suggest themselves after observation. These innovations may or may not have been observed on other farms.

Third, the need for non-existent facilities, equipment, or small tools may be suggested by the analysis. Equipment occasionally is invented or a device from another field is transferred in an attempt to develop a new, improved method of doing a job. Equipment conceived in this manner frequently enjoys rapid and widespread adoption because its design is based upon a careful analysis of the functions it is to serve and the area in which it is to operate. In many cases, agricultural engineers have assisted with equipment and layout problems. Equipment developed in work simplification research has thus far been primarily small hand tools and facilities within buildings.⁹

4. *Checking and Validating Hypotheses.* Proposed changes can be checked on a laboratory basis by developing a process chart for the new method and comparing it with the old. Synthetic charts for new methods will usually include some estimates. Estimates are usually limited to a few elements or small operations of a job and the total time, travel, and cost requirements thus developed have generally given reliable indications of the possibilities of the new method.

If this "synthesized" test shows the new method to have promise, a worker or workers are then trained in the new method. After practice, workers are timed while actually performing the work according to the prescribed new method. Both University farms and properties of cooperating farmers have been used for this purpose. In this way supervised case tests prove or disprove the validity of the hypothesis developed.¹⁰

⁹ In Kentucky a one-man plant bed board (for pulling or weeding tobacco plants), a new hook-type topping and suckering knife, a self-releasing hook for lowering tobacco, and an improved type of cutting and splitting knife have been developed. As a result of Florida celery studies a new type field crate, a crate closing device, and a new type of packing table have been developed.

¹⁰ In Kentucky, where tobacco plant pullers average around 1200 plants per hour, a totally inexperienced worker after one-half day's practice following the suggested procedure pulled 1560 plants per hour. An experienced worker, whose previous output was 970 plants, pulled 1550 plants an hour using the new method. An above average worker, whose previous average was 1660 plants, pulled over 2500, using the new method.

5. *Making Proven Developments Available.* In some cases work simplification research workers have carried improved methods to individual farms on a demonstration basis. In such cases the "before" and "after" technique has been used. Detailed records are made before changing any of the work methods. Then the changes are introduced, workers are trained in the use of the new methods, and time, travel, and accomplishment are again measured.

"Before" and "after" studies, therefore, provide a test of work simplification findings under practical operating conditions, besides aiding materially in gaining farmer acceptance of the research discoveries.

If the work being done is sufficiently uniform from farm to farm, instructions may be prepared for use of the improved methods. Detailed specific instructions may be accompanied by working standards stating the expected accomplishment of an average worker. Instructions have been prepared for hand harvest work, as tobacco production, and are being developed for other jobs.¹¹ If much farm to farm variation exists in physical facilities or in size and type of enterprise, suggested changes in work methods and possible savings thereby effected, rather than specific detailed instructions, may be released.¹²

Classifying Work Simplification Changes

A classification and definition of the possible changes which might be made to improve a job systematizes the researcher's examination of work methods in farm work simplification studies. Such a classification is also helpful in focusing farmer attention on general areas in which farm operators may make improvements for themselves. Dr. M. E. Mundel, who as an industrial engineer has

¹¹ Some examples:

M. E. Brunk, *Celery Harvesting Methods in Florida*, Fla. Exp. Sta. Bul. 404, 1944.

I. R. Bierly, and E. V. Hardenburg, *Suggestions on How to Pick Up Potatoes*, Cornell Ext. Bul. 656, 1944.

J. W. Oberholtzer, *Making Movements Count in Picking Tomatoes*, Purdue Ext. Leaflet 258, 1944.

G. B. Byers, E. J. Nesius, and Earl Young, *Easier Ways to Do Farm Work*, Series of University of Kentucky Ext. Leaflets on Tobacco, Nos. 75, 76, 79, 84, 86, 90, 92, 1944, 1945.

¹² Examples:

R. M. Carter, *Modern Milking Methods*, Vt. Ext. Circular 111, 1944.

J. W. Oberholtzer, and L. S. Hardin, *Simplifying the Work and Management of Hog Production*, Purdue Exp. Sta. Bul. 506, 1945.

actively participated in farm work simplification studies from the start, has made such a classification.¹³ The following grouping of farm work simplification changes is an adaptation of his classification.

1. *Changes in physical work.* Included in this class are changes such as elimination of unnecessary work, use of easier hand and body motions, rearrangement of work routines, reduction of travel, increased worker comfort and safety, reduced hours, provision of rest periods, adjustments in crew size and integration of responsibilities of crew members, and better integration of man and machine work.

2. *Changes in equipment and layout.* To make improvements which fall in this class the researcher or farmer may: (a) change the kind or design of a machine, tool, or device (or introduce one) to displace man labor or meet more economically the job's requirements; (b) relocate equipment, supplies, or facilities for better accessibility and greater convenience; and (c) rearrange building and fence locations and building interiors to decrease travel, permit improved work routines.

3. *Changes in production processes and practices.* Changes falling into this class may affect production rates and the product as well as the worker. Improvements sought include the rescheduling of certain jobs into less-busy seasons, increasing the timeliness of crop and livestock operations, or otherwise altering production processes and practices for greater effectiveness. This involves study of practices such as fall vs. spring plowing, drilling vs. checking corn, around-the-field vs. back-and-forth planting, hogging down corn, self-feeding vs. hand feeding, hand stripping vs. machine stripping of cows, and producing hogs on the one-litter vs. the two-litter system.

Dr. Mundel's classification goes a step further to include modifications in the product (form, condition, quality) as class 4 changes and changes in raw materials (seeds, feeds, fertilizers) as class 5 changes. Whether or not changes of these two classes should be made is largely a problem of general management or of crop and animal production and not purely a work simplification consideration. If a class 4 or class 5 change is contemplated or made, however, then it is definitely the job analyst's problem to follow

¹³ M. E. Mundel, *Systematic Motion and Time Study*, Prentice Hall, 1945, Chapter 3.

through and study the possibilities of making improvements in the production process, equipment, and physical work. While few class 4 and 5 changes have been made in farm work simplification studies, it is apparent that on many farms such changes are desirable if output per unit of input is to be maximized.

This classification of work simplification changes is so constructed that changes are listed in order of increasing complexity. The higher the class of change, the greater is the number of desirable changes which will probably accompany it. A change in the production process (class 3) as shifting from a two-litter to a one-litter system of hog production automatically requires changes in equipment (class 2) and changes in the physical work (class 1). Systematic use of this classification of changes helps to make certain that most of the possibilities for job improvement are exhausted.

Results

The degree of success achieved by farm work simplification research projects has varied widely as would be expected in a relatively new field of work. Studies of repetitive hand jobs have generally produced readily applicable, quickly accepted findings. Studies of livestock work have necessarily proceeded more slowly because of the greater number of variables involved. Measurement of farmer acceptance and use of findings is difficult. This brief summary, therefore, is limited largely to results of field trials and "before" and "after" studies, wherein farmers were assisted by research workers.

In a "before" and "after" study on a 22-cow Vermont dairy farm, daily savings of 2 hours and 5 minutes of work and of 2 miles of walking, or about one-third of the time and two-thirds of the travel, were made.¹⁴ Over a period of about a year's study, with gradual change, dairy chore time on a Minnesota farm, where 13 cows and 14 other cattle were kept, was reduced by 27 percent and about 37 percent of the travel was eliminated.¹⁵ The research procedure resulting in these significant accomplishments was in both cases approximately that outlined above. Four classes of changes were made. Virtually all of the changes either reduced the

¹⁴ R. M. Carter, "Job Analysis of Chores on Dairy Farms," this JOURNAL, Vol. XXV, No. 3, Aug., 1943, p. 677.

Also, *Labor Saving Through Farm Job Analysis*, Vt. Exp. Sta., Bul. 503, 1943.

¹⁵ S. A. Engene, "Saving Seconds," Minn. Farm Business Notes, No. 269, May 1945.

physical work, made it easier or more effective. Strictly class 1 changes included the establishment of new work routines more economical in time and travel and reduction of the time the milking machine was on the cows. Class 2 changes in equipment and layout resulted in additional changes in the physical work. New equipment—carts, brooms, shovels, forks—were developed or obtained after study of the job requirements. The Vermont farm's stables were rearranged and, in both cases, locations of feed, livestock, and supplies were changed to provide work centers, permit circular travel, and eliminate empty travel. On the Minnesota farm a production practice was altered (a class 3 change) by replacing hand stripping with machine stripping. Also, on the Minnesota farm the product marketed was modified (a class 4 change) by selling whole milk rather than cream.

Once their importance had been discovered, some of these changes could have been made without a detailed study of the work. But because the entire process was carefully analyzed, many changes, individually small but collectively large, were made which would have been overlooked in a less systematic study where only the more obvious opportunities for improvement were examined.

In a study of means of simplifying the work and management of hog production, five selected Indiana farmers were able to do their hog work in about one-fourth the average time required. Because of farm to farm variation in layout, equipment, and size of enterprise, means of simplifying hog chores were summarized by comparing different methods of doing important hog jobs. Attention was called to possibilities for improvement, but no one best method was suggested. Additional "before" and "after" studies to test further the hypotheses developed would be desirable in this and several other studies.

Hay harvesting studies now under way have progressed only to the comparative analysis stage. In this, as in most other work, the extreme variability in time requirements of different individuals in handling a given output appears to be due largely to differences in job composition. There is relatively little difference in the time required by farm workers to do a given operation in an absolutely uniform manner.

In tobacco production and harvesting work simplification studies, improved methods saving from one-fourth to two-thirds of the labor previously required have been developed and tested for several important jobs. Tobacco jobs are largely repetitive,

equipment is relatively simple, and labor requirements per acre with usual methods are great. In this area specific recommendations as to method can have general application. Here, as in live-stock work, however, the five-step research procedure has been generally followed.

Significant improvements in methods of harvesting vegetable crops—celery, potatoes, tomatoes, green beans—have been made through the synthesis of good parts of methods already in use and the application of tested principles. For example, in Colorado an improved method of cutting seed potatoes was developed which utilized our knowledge of the effective use of both hands, gravity feed, and drop-chute delivery.¹⁶ These studies have repeatedly emphasized the necessity of adequate job instruction, if the potential savings of improved work methods are to be realized.

Essentially this same research technique is being successfully applied to marketing and processing operations. Max E. Brunk has completed a significant study of celery wash-house and packing operations in Florida and a work simplification study of Indiana tomato canning factory operations is under way. These two studies show that variations in efficiency and cost among these processing and marketing organizations is about as great as among farms. Through the use of work simplification research techniques, some specific reasons for these variations in costs and efficiency have been ferreted out. In addition, specific suggestions resulting in substantial improvements have grown out of the work. This suggests that work simplification research techniques will have practical applications in marketing investigations equal in importance to the farm work applications.

Many problems in work simplification research methods remain to be solved. Thus far, broad studies of work processes, planning of work routines, and layouts have generally been more productive than detailed analysis of work elements.

As the above results indicate, work simplification research attempts to sift out the best of work methods already in use, evaluate them, and carefully analyze them for further improvement. At its best it goes beyond the actual experience of farmers to develop and test other possible improvements. In this way, operation and management information is developed which should be of value to all farmers irrespective of the efficiency or scope of their operations.

¹⁶ J. L. Paschal, *Easier and Faster Ways of Cutting Seed Potatoes*, Colo. Exp. Sta. Bul., 1946.

THE FUTURE OF FARM WORK SIMPLIFICATION RESEARCH*

E. C. YOUNG AND IVAN R. BIERLY

*Purdue University
Cornell University*

TO AN increasing extent in recent years, the interests of agricultural economists have been directed to the economic problems external to the farm itself. Except for a brief period following World War I, farm management has occupied a declining position in research, in the classroom, and in professional meetings in relation to the economic problems of agriculture as an industry. This was to be expected, since during the period between the wars, farming was being adjusted to a lower price level. Commercial farming was generally unprofitable as compared with other lines of endeavor. Throughout most of the period, land values were declining and costs were being brought into line with realities. The problems of the agricultural industry eclipsed the problems of the individual farm operator, even in the minds of many operators themselves.

In the latter part of the 1930's, price-cost relationships in farming were such that commercial farming had again become profitable in most agricultural areas. As a result, even before the war, increased interest in commercial farming had developed. In the Experiment Stations there was increased interest in the detailed problems associated with the management of commercial farms. Much of the management research employed the traditional techniques of accounting and business analysis. It was largely concerned with the development of principles of farm organization and management, based on historical studies of farming operations. Emphasis was placed on the organization of resources and the allocation of the factors of production. It was the expectation that individual farmers would apply these principles to their situations, to the end that unit costs of production would be reduced and net incomes increased. Among these cardinal principles, efficient use of labor is listed. The great importance of high labor productivity is further recognized in the use of such measurements of farm business success as "operator's labor income," "labor and management income," or other variations of these terms.

* A paper presented at the annual meeting of the American Farm Economic Association, Chicago, December 28, 1945.

Studies of layout and building arrangements also were predicated on historical studies of job organization and production sequences. Interest was revived in input-output studies, which do provide for some projection of the results. But here again the limiting factor was the lack of specific quantitative information from which budgets for the years ahead could be made.

With the upsurge of prices associated with the war, and the accompanying shortages of labor and equipment, even greater emphasis was directed toward the problems of farm operation, both from the standpoint of public interest and private gain.

The economic changes which have accompanied the war have produced conditions favorable to the introduction of more detailed studies of farming methods and practices. With the current outlook for a narrowing of the present favorable spread between farm prices and costs, it will be even more important to commercial farm producers in the years ahead to find ways to maximize labor productivity and to reduce unit costs of production.

During the period between the two wars, there have been very important changes in farm and market technology. Only part of these have been reflected in farm operations. Some of the important technical changes of recent years are summarized and enumerated:

1. Increased standardization and grading, with a price premium for produce of high quality.
2. The development of large-scale buyers of farm products who perform most of the marketing services between the producer and consumer and therefore require a uniform product in large volume.
3. Improved quality control in production.
 - a. More effective control of diseases.
 - b. Increased knowledge of sanitation, and the technical means for making this knowledge effective.
 - c. Advances in nutrition, both with plants and animals, which make it possible to produce products more nearly according to market specifications or requirements.
 - d. Advances in genetics, which give greater control over the character and quality of plant and animal products.
 - e. Improved technology in storage and transportation, especially of perishable items.

The unfavorable cost-price relationship during the inter-war period, lack of capital and discouragement on the part of com-

mercial operators had all served to depress the rate of adoption of new technologies. Further, technological changes increased the complexity of production in an industry which was already characterized by the requirement that each individual operator must be a "specialist" in a wide variety of fields. We believe that work simplification can make a substantial contribution to the individual operator's problem of fitting these new technological developments into the pattern of his farming operations.

These developments, both economic and technological, have created an environment favorable to the development of work simplification studies. Farm work simplification involves simply a scientific analysis of work methods—a systematic search for a more efficient, and a more economical way to do farm work. In such studies, searching questions are raised as to the organization of jobs, the layout of work places, the integration of equipment, the organization of work crews, and the application of new techniques. The ultimate goal is to reduce unit costs of production. We believe that farm work simplification provides a new research and teaching technique which should greatly increase the effectiveness of research and teaching in farm management. However, its use requires a new approach to management problems.

Work simplification research provides for the breaking down of farm jobs into their elements. Having done so, it is possible to create new and improved production patterns. This makes possible, also, the development of new patterns which include new technologies or new applications of known technologies. An essential adjunct of such analyses, of course, must be to test these new production methods or patterns on actual farms; some can probably be tested adequately in the laboratory. This approach gives to farm management research a dynamic characteristic which has been lacking in an historical approach. By this means it is possible to plan farming operations in specific enough terms that the projected changes may be transferred readily into action. In the past, too often, research in management has lagged behind the farm manager. It has been necessary for the farm manager to develop new and better production patterns by the system of trial and error. Management research has then followed and made its contribution through an analysis of these trials and errors, comparing methods and programs, and passing the results along in terms of rather broad principles to other farmers. As researchers, we can continue

to learn much from careful studies of the management, operation, and methods on progressive farms. But work simplification research to date has clearly shown that even on the best-organized farms some parts of the production program have been much more carefully planned than others.

Most of the attention of researchers in work simplification up to the present time has been devoted to the delineation of the field, the development of research techniques, the application of these techniques to sample studies, and the discovery of opportunities and limitations. These problems have been much the same as those encountered in the initial stages of any new research program. We believe, however, that substantial progress has been made during the last three years, and that we are now in a position to make a substantial contribution to farm management, in its broadest sense. We believe that work simplification provides a common meeting ground for economics, engineering, and the plant and animal sciences. It cannot be properly classified as belonging to any one of these fields. The farmers who are confronted with new developments in any of these fields are confronted with two closely related problems; first, understanding *what* these new ideas are; and, second, *how* they may be incorporated into a production program. In the past, the "how" has largely been developed through trial and error. Work simplification, through studies of work methods and production patterns, can help to bridge this gap. In a sense, this might be described as the orientation of management research to the viewpoint from which the farmer sees the problems.

It would be a serious mistake to attempt to set up a new field of farm work simplification, dissociated from other fields. The effort should rather be directed toward the closer integration of research by economists, engineers, and plant and animal scientists. The organization of research should follow the pattern of coordinated group research which is developing rapidly in leading graduate schools, experiment stations, and industrial research establishments.

Most of us have accepted the traditional institution, the diversified family farm, without looking at it critically or suggesting possible modifications which might be appropriate in the light of changing technical conditions. A technical revolution of the proportion of the present one cannot fail to bring about, over a period of time, profound institutional changes. The impact of science

and technology in many lines of industry has historically resulted in revolutionary changes in the process and organization of production. Of course, one would not predict that the organization of agricultural production will follow the pattern set by the factory system. Nevertheless, it is high time that economists began realistically to appraise the institutional limitations imposed on production by the traditional family farm. One can marshal a very great array of arguments to show why the family farm will persist as a basic form of production organization in farming, but only a casual review of the changes in its organization from a highly diversified to a highly commercialized and more specialized business should convince the most skeptical that substantial modifications are still in prospect. The diversity of the family farm which has constituted its principal strength in the past, also constitutes the primary difficulty in the adaptation of changing technology to farm operation. Each new technological development increases the advantages of specialization and decreases the advantages of extreme diversification. The manager himself becomes a limiting factor since the requirements for technical information and skill imposed by new technologies places too heavy a burden on the average operator. New technical developments generally require the attention of the manager himself. They are not sufficiently well organized when they leave the research laboratory so that their application can be carried out by employees, or by more than a minority of farm operators. The essential "how" has been left up to the ingenuity and imagination of the operator. We recognize that each individual farm unit presents some peculiar problems of its own, and that any pattern or method for doing a given job must be adapted to meet the needs on an individual farm. However, we believe that work simplification can make a substantial contribution by working out specific, simplified production programs which employ a new technology, at least to the extent of showing how such technologies can be applied to typical farming operations.

With the growth of modern farm technology has come a corresponding growth in the capital requirements in farming. Also, the rising standard of living of the consumer causes him to be continually more exacting with respect to the kind, quality, and seasonality of the product. Both the changing technology of production and the rising standards of the consumer add to the capital require-

ments in production. Capital inputs have become a major contribution to production; in many types of farming they far exceed inputs of land, as measured by annual cost. The application of capital to farming takes many forms, increasing in complexity as well as amount. Important among these are livestock, feed, fertilizer, specialized equipment and buildings, lime, drainage, irrigation, and contouring. Capital applications to farming make possible the exploitation of agricultural technology, and at the same time bring added control over production processes into the hands of the manager. This makes it more nearly possible for farmers to produce for the market according to a predetermined schedule with more assurance that a uniform product of known quality will result. As the amount of capital that is required increases, the necessity of making such pecuniary investments as wisely as possible becomes of increasing importance.

To the individual producer the problem of making full use of all available technological improvements becomes more acute as capital inputs are increased. Such increases add constantly to the risks involved in production, especially since costs in farming are relatively less flexible than the prices received for farm products. Work simplification, which involves a scientific search for ways to make better use of labor and of the other factors of production, is a down-to-earth approach to the farmers' problem of reducing unit costs.

During the 1930's there was much interest on the part of agricultural economists, farm organizations, and farmers in the fact that the farmer was receiving a shrinking share of the consumer's food dollar. The characteristic lag in the adjustment of distribution costs to a changing price level was a principal underlying factor in this change. Important also was the slow rate of development and adoption of new technology in marketing.

In the years ahead it appears not at all unlikely that distribution costs may absorb a greater share of the consumer's dollar than during the war period. With such a change, there will no doubt be a greatly revived interest in improved and more efficient marketing of farm products.

Our experience with the application of work simplification techniques to marketing practices and functions has been much less than our experience with its application to production problems on the farm. Nevertheless, this same process of challenging what is

done, why it is done, and how it is done can also be effectively applied in the marketing of farm products. In fact, the research techniques evolved by industrial engineers can probably be more readily applied to marketing problems than to production problems on the farm. Methods studies of farm operations are complicated by biological considerations whereas marketing studies are reasonably free from this complication.

We believe that the employment of work simplification techniques in marketing research will prove helpful in attaining some of the objectives which F. L. Thomsen has set up in his article entitled, "A Critical Examination of Marketing Research," in the November, 1945, issue of the *JOURNAL OF FARM ECONOMICS*.

REVIEW OF PAPERS ON FARM WORK SIMPLIFICATION*

S. A. ENGINE

University of Minnesota

We have just heard three excellent discussions on farm work simplification. The first discussion presented the basic philosophy that has served as the background for the research that has been conducted to date. The second presented some of the research techniques that have been used and some of the results that have been obtained. The third presented some of the extension methods by which these findings have been carried to the farmers.

I agree with the general ideas that have been presented in these papers. In this review I wish to discuss three points which I believe deserve some expansion or where I disagree with some of the minor ideas presented.

First, I want to discuss briefly some of the objectives of research in farm work simplification. I like the objectives of research in farm work simplification as presented in these discussions. They state that the primary objective is to find easier, more economical ways of doing work. The operation of a farm involves much work. Seedbeds must be prepared, crops must be planted, cultivated, harvested, stored and marketed. Livestock must be cared for, livestock and livestock products must be marketed, buildings and machinery must be maintained. These and numerous other jobs around the farm require much time, effort and expense. The objective of this research is then to find easier, more economical ways of doing this work.

Emphasis must be placed upon economy of effort and cost, probably more than on economy in time. In the studies that have been reported today and that have appeared in the literature of the field considerable

* Presented at the annual meeting of the American Farm Economic Association, Chicago, December 28, 1945.

emphasis has been given to savings in time. Probably the principal reason for this is that time is a factor that is more easily measured than the first two, particularly effort. But it will be unfortunate if primary emphasis is placed upon savings in time. This is likely to lead to speeding up of work rather than economy or simplification. The speeding up may increase the output per day or decrease cost with hired labor, but as in industry it may lead to difficulties with laborers and it may have an undesirable effect upon the health of workers.

Thruout most of this discussion emphasis has been on an increase in the efficiency of farmers. These techniques of research could be applied equally well to the functions of marketing or other phases of the agricultural industry. One excellent study is being made in tomato canning. Similar studies could be made with creameries, cheese factories, and elevators.

Second, I wish to discuss methods for carrying this information to farmers. In the three discussions that have been presented you have heard many ideas that have been developed in this research that will eventually be carried to farmers. I believe this can be most effectively done if we recognize that these ideas fall into three general groups.

The first method by which work simplification ideas can be carried to farmers is to present to them specific instructions on effective ways of doing work. We have had a good illustration of this in Proctor's discussion of extension methods used in Kentucky. Research workers studied the various methods of doing work on tobacco and developed efficient methods for the various jobs. The extension workers then carried these instructions to the individual farmers. The studies in tomato picking and seed potato cutting mentioned by Hardin and Carter are additional illustrations.

These instructions prepared for farmers may be detailed and specific or they may be somewhat more general, stressing only the most important things to do and the most important things to avoid. It is then up to the farmer to fill in for himself methods on the minor details of the job.

This method of presenting work simplification can be applied successfully only where working methods are uniform from farm to farm and when the jobs are highly repetitive. In this case research workers can afford to spend time to develop methods and the instructions will not be so long that farmers will refuse to study them. Many such jobs are found on farms, especially in work with crops. Snapping sweet corn, picking tomatoes, harvesting tobacco, grading eggs, are examples of these types of jobs.

The second method of presenting information on farm work simplification recognizes that conditions do vary among farms and some jobs are not highly repetitive. Under this method the farmer would be taught no specific ways of doing jobs, but would be taught a series of principles of motion economy. These principles would represent the essential ingredients of efficient work. Several of them have been mentioned in the discussions today. For example, in manual tasks use both hands at the same time; in picking tomatoes pick with each hand, do not use one hand merely for holding or for transporting tomatoes to the basket. A second principle is to fill both hands as full as possible to reduce the proportion of time used for travel. A third is to set down and pick up the work as seldom as necessary

because each such motion may represent waste. This list could be expanded much farther. With such a set of principles the farmer can then study his own job to determine where he is violating some of the principles of efficient work. He can then make improvements accordingly.

Some of these principles have been presented in the form of check lists as mentioned by Hardin and Carter. This work, however, is just under way. Much research remains to be done to develop and test useful and reliable lists.

Under the third method the farmer is trained to be his own work simplification specialist. He is taught the techniques of analyzing his own job. A method for doing this had been developed in industry. It has been tried in agriculture and has yielded some worth while results. Proctor mentioned some of this work in his discussion. In one of their extension programs they showed step by step the method by which the improved method was developed. A more formal method for teaching the individual has been developed in the courses in J.M.T.—Job Methods Training. These courses train the farmers to analyze their own jobs and to develop improvements. However, we need more research on the methods of analysis and the methods of teaching this to the farmers.

Each of these three methods has important advantages and serious disadvantages. All three must be used to successfully pursue our research and to carry the results to the farmers.

The third problem I would like to discuss is to analyze the question, what contribution has research in farm work simplification made to farm management and the various subject matter fields? I mention farm management first because I believe this work applies principally to the work of farm management. The objective of the work is to achieve economy in effort and cost, an important part of farm management. As with so many problems in farm management, the relationship to other subject matter fields is very close.

The techniques used in research in work simplification have provided the tool that will fill a serious gap in the field. In the analysis of farm records or farm efficiency we frequently find that labor efficiency is low. In the past we have been able to give only limited advice to these farmers. We have suggested that he increase the size of his business, that he use well adapted machinery, and that he plan his work better, but these suggestions have been general and have added little to the farmer's knowledge. With the techniques developed in farm work simplification we can now hope to give more definite advice on this problem.

It seems probable that in the future farmers will demand shorter working hours and lighter work. They will want their working conditions to compare more favorably with those found in the cities. Research in farm work simplification can help to achieve this goal without sacrificing income on the part of the farmer.

These techniques provide a new approach for studying farming operations. It may provide a new point of view by which we can approach other problems in farm management. I believe it is necessary that the workers in farm management project their thinking into the future and develop ideas

ahead of the farmers instead of merely following them. I agree heartily with Young and Bierly on the desirability of this objective.

In our enthusiasm for the field of farm work simplification let us not claim too much. It can make an important contribution, but it will not replace other forms of research in farm management. There will still be need for farm organization and input-output studies.

I believe a study of the five classifications of farm work simplification presented by Hardin and Carter will help us to see the relationship of these new techniques to our customary farm management studies. According to their analysis, economy in effort and cost in doing farm work can be achieved first by changes in physical work. Here the techniques of farm work simplification can give most of the answer. The objective can be achieved in a second way by changes in equipment and layout. Work simplification techniques can make an important contribution to the solution of this problem but it will also require analyses of costs involved. The objective can be achieved in a third way, by changes in production processes and practices. Here we need numerous studies aside from those in work simplification. Input-output studies will be essential. The benefits of savings in labor may be offset by losses in efficiency in utilization of raw materials. For example, in the corn belt a saving of one man and one tractor hour per acre in corn production will be offset by a loss of one bushel per acre in yield. The improvements in quality and uniformity of product stressed by Young and Bierly must come from changes in practices, as changes in breeding, feeding, and disease control. Simplified working methods may help to promote adoption of these practices, but it is doubtful if work simplification will directly influence the quality or uniformity of the product. The objective can be achieved in a fourth way by changing the form of product that is sold. Here we need marketing studies, budgeting analyses and other forms of farm management study in order to fully answer the questions raised. The objective may be achieved in a fifth way by changing the raw materials. This is essentially a change in the farm organization. Here farm work simplification techniques will be minor. Here we must rely primarily upon our present techniques in studies of farm organization, or upon improvements in these methods. These studies are important. Increased efficiency in operation will not yield maximum earnings if the farm is poorly organized.

Research in farm work simplification has definite limits but it has opened a field that has been neglected in the past. I agree with the other discussions of the afternoon that we can well afford to devote a considerable part of our time to work in this field.

ADJUSTMENTS IN SOUTHERN AGRICULTURE WITH SPECIAL REFERENCE TO COTTON*

Introduction

THE future of cotton production and consumption in relation to the development of a profitable farm economy is of paramount importance not only to the South but to the whole nation. In spite of efforts made to reduce cotton production during the 1930's, it is still the most important single cash crop in the South, and is grown by more than one-half of all farm operators, or roughly 1,500,000 farmers. Although grown commercially in 17 states, the crop is of major importance in only ten of them.¹ In these ten states, the percentage of all farmers growing cotton in 1939 ranged from 31 in Tennessee to 89 in Mississippi (Figure 1). For a majority of the farms on which cotton is grown, it is the main source of cash income, and for the Cotton Belt as a whole, it accounts for about one-third of the total. In spite of numerous difficulties and strenuous efforts to find alternative occupations for the great mass of farmers, it has continued to occupy first place among the various cash enterprises adapted to the South.

The importance of cotton as a source of income, however, does not end with the farms where the raw material is grown. Some 3,000,000 people are furnished full-time or part-time employment in ginning, marketing, processing of fiber and seed, transportation, manufacturing, and merchandising of innumerable products made from cotton lint and seed. Still others are engaged in discovering and perfecting new uses for this exceedingly versatile crop. Altogether from 20 to 25 millions of people are wholly or partially dependent upon the cotton industry as a source of income.

In the last 20 years, however, cotton has been losing in its relative importance as a cash crop in the South. This decrease in em-

* This report was prepared by a special committee appointed by the President of the American Farm Economic Association, L. J. Norton. The members of the committee are Joseph Ackerman, Farm Foundation, Chicago, Illinois, Chairman; G. H. Aull, Clemson Agricultural College, Clemson, South Carolina; L. P. Gabbard, A. & M. College of Texas, College Station, Texas; B. M. Gile, Louisiana State University, Baton Rouge, Louisiana; James Hand, Jr., Rolling Forks, Mississippi; E. L. Langsford and O. C. Stine, Bureau of Agricultural Economics, Washington, D. C.; and F. J. Welch, Mississippi State College, State College, Mississippi.

¹ The ten major cotton-producing states are Alabama, Arkansas, Georgia, Louisiana, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, and Texas. These with Florida, Kentucky, and Virginia constitute the South as used in this report.

phasis on cotton is not peculiarly a wartime development. In 1939, for example, cotton lint and seed made up only one-third of the total cash farm income as compared with nearly two-thirds in 1924. Including what the farm furnishes for living, the income from cotton in 1939 was less than one-fourth of the total, while in 1924, it was one-half.

Although the analysis which follows is concerned with the entire agricultural economy of the South, the position which cotton holds in this economy is such that any discussion must deal with programs and policies affecting cotton. It is no exaggeration to say that the results of policies, programs, and methods will determine not only the future of the cotton industry but, to a large extent, the future of agriculture in the South.

Economic Position of the South

The South has been characterized as "the Nation's No. 1 economic problem."² Basically, the reason for this situation seems to be that the South is primarily agricultural and presents some of the most difficult problems. In the United States as a whole, for example, only 21.1 percent of the total employed workers are engaged in the so-called primary industries, including agriculture, forestry, fisheries, and mining. Only Florida of the 13 Southern States had a percentage as low as the average.³

A close relationship between the percentage of workers engaged in agriculture and average per capita income is shown by the fact that in 1939 the three Southern States showing the highest percentage of nonagricultural employment also ranked highest in average income per worker. Likewise, the states with the smallest percentage of nonagricultural employment ranked at or near the bottom in income per worker.⁴

Only two of the major cotton-producing states, Texas and Oklahoma, had "realized net incomes" from agriculture based on average per farm in excess of that reported for the United States as a whole in 1929. For the year 1939 only Texas among the ten cotton states ranked above the average for the nation.⁵

² The National Emergency Council. *Report on Economic Conditions of the South*. Prepared for the President. Washington, D. C. 1938, p. 1.

³ United States Census 1940. Population, Second Series.

⁴ United States Census 1940 for population data and United States Department of Commerce for income data.

⁵ United States Department of Agriculture, Bureau of Agricultural Economics. *Income Parity for Agriculture*, Part VI. Section 1. October 1945, p. 22.

The South has many problems associated with low farm incomes. Over some of them farmers have little or no control. Among these are tariffs and other barriers to trade; discriminatory taxation and freight rates; low purchasing power of consumers; small farms; pressure of population on the land; and lack of industrial employment in many areas. Others, however, lend themselves more readily to attack by farmers individually and cooperatively. In this latter group may be placed such things as too much dependence upon a single crop; under-utilization of resources; soil depletion; inefficient operation; and lack of knowledge as to proper farming methods and practices.

Trade Barriers.—For many years southern farmers, along with others, have found themselves at a disadvantage because of United States tariff policies. They received a world price, which was low, for their major products like cotton and wheat, but had to pay a domestic price, which was high, for equipment and supplies essential to their operations. It is an axiom that a nation cannot buy if it is not permitted to sell. By charging excessively high import duties, the United States severely limited acquisition of dollar currency and, thereby, the sale of American produced goods in foreign markets. There can be no doubt that this policy materially contributed to the economic plight of the South by reducing the market for cotton, its major export crop.

Tariff duties, however, were not the exclusive, nor even the major device for restricting sales of cotton and other important agricultural products during the years immediately preceding World War II. Import quotas, currency devaluation, embargoes, and similar measures all played a part in the trade wars which raged for several years before the actual shooting began, and the United States was not alone among the nations resorting to these tactics. All these things served to retard the natural development of agriculture, trade, and industry.

Internally, too, there has grown up a network of restrictions on the movement of products in the market. These have taken the form of needless inspections; far-fetched sanitary laws; discriminatory taxes; illogical provisions as to descriptions, weights, and measures; and finally, of "rules" governing the conditions under which a produce truck can enter the market. All of these are important influences in determining the economic position of agriculture and of the South prior to World War II.

Population Pressure.—Any listing of factors associated with low farm incomes in the South necessarily includes the low per capita resources, both public and private, available to southern farmers. This situation is due to high birth rates, limited agricultural resources, and nonagricultural employment opportunities. There are approximately 50 percent more children under 5 per 1,000 females of child bearing age in the South than in the rest of the nation and nearly one-half of the South's population is under 20 as compared with about one-third in the nation as a whole.

Approximately one-half of the nation's farms and more than one-half of the nation's farm people are located in the cotton South on one-third of the nation's cropland. It is not surprising, therefore, to find that in the 10 major cotton-growing states, less than half the farms are in units having as much as 50 acres of land suitable for cultivation. The average per farm in 1940 was 33 acres, which compares with 71 acres in 5 Midwest States. Cropland per person on farms in the Southeast States is hardly more than 5 acres whereas the average for the nation is 12.8 and for Iowa 21.7.

More than one-fifth of the cotton allotments in 1941 were for 3 acres or less and more than half for 10 acres or less. Among the 10 major cotton states only Texas reported more than 4 percent of its allotments on farms having over 60 acres in cotton. When it is recalled that allotments are generally on the basis of "operating units," which in most cases are larger than "Census farms," these figures are all the more significant. Investments on many southern farms are so small that even a phenomenal return on capital would yield only inadequate income. In 1940 the investment per person on farms was one-fifth as much in land and buildings and one-sixth as much in tractors in seven Southeast States as in five Midwest States.

While advancement can be made through improved practices, through other technological improvements, and by a fuller utilization of resources on existing farms, the rank and file of farmers in the South cannot enjoy incomes comparable with those of farmers in other areas and with those of industrial workers until the resource-man ratio has been increased. This means fewer people wholly dependent upon agriculture for their income.

Land Use and Value.—This pressure of population on the land is responsible in large measure for many practices and conditions peculiar to the South. It gives considerable "site value" to farm

land and increases its price for agricultural purposes; it makes even a modest farm home expensive on a per acre basis, and it encourages a system of farming which gives emphasis to row crops requiring a large volume of seasonal labor and possessing a high value per acre without due regard to the conservation of the soils which by their nature are subject to rapid erosion.

Under-Utilization of Resources.—In spite of the inadequacy of present farm resources, much can be done to improve farm incomes in the South by a better utilization of the human and physi-

TABLE 1. VALUE OF FARM LAND AND BUILDINGS AND NUMBER AND VALUE OF TRACTORS ON FARMS IN TWO AREAS OF THE UNITED STATES, 1940

Item	Southeast ¹	Midwest ²	United States
<i>Value of land and buildings</i>			
Per farm	\$2,136	\$8,831	\$5,518
Per acre harvested	74	135	105
Per person on farms	378	1,959	1,111
<i>Tractors on farms</i>			
Per 1,000 acres cropland	1.53	7.16	4.66
Value per farm	163.00	804.00	—
Value per person on farms	29.00	178.00	—

¹ Alabama, Arkansas, Georgia, Louisiana, Mississippi, North Carolina, and South Carolina.

² Illinois, Indiana, Iowa, Ohio, and Wisconsin.

Source: United States Census.

cal resources which are available. This under-utilization is partially the result of the exacting demands of cotton. Over the years cotton has provided in a large part of the South, a more remunerative income per crop acre than other enterprises. Therefore, it has been given priority over other enterprises in the use of resources. Cotton, as produced in the past, has been a heavy labor-consuming enterprise and, furthermore, very exacting in the time at which the labor is performed. Thus, it formed the nucleus in planning the farming system. This resulted in planting the amount of cotton that could be handled during peak seasons, which, in turn, meant under-utilization of labor the remainder of the year.

Growing cotton has tended to prevent the inclusion of other enterprises which compete directly with it for labor. There are no major enterprises well adapted to the South that do not compete with cotton for labor either at one or both of the two peak seasons—chopping and harvesting times. In addition to this, crude hand

methods of producing and harvesting cotton have led to a disproportionate amount of drudgery on southern farms. This, of course, helps to explain the relative lack of certain items of equipment so necessary to good practices and efficient operation and, to some extent, the small investment on most southern farms. Partly because of small resources per worker but also partly because of inefficient utilization of resources which are available, the output per worker in agriculture is distressingly low.

Low Prices for Farm Products.—Farmers in general attribute much of the responsibility for their unfavorable economic situation to the low prices received for their products. Based upon relationships which prevailed during the relatively prosperous years, 1910–1914, the price of cotton, for example, has been in an unfavorable ratio to the price of things farmers bought during 21 of the 37 years since 1908. Even with Government supports, cotton has not brought “parity” prices. During 1910–1914, two pounds of cotton would buy the production of one hour of industrial labor, but in 1935–1939, six pounds were required.⁶ Of course, industrial production per hour of labor has expanded much more rapidly than has agricultural production, the indications are that present conditions as compared with 1910 have lowered the level at which a large volume of cotton may be sold. The same thing has happened before to many other products, both farm and nonfarm, but the situation has been saved by greater efficiencies in production and in many cases the product has found an even wider market than before. While some increase in the efficiency of cotton production has already taken place and many growers would even now make a success of the business at greatly reduced prices, thousands of others would not be able to maintain a decent level of living from cotton even if prices were doubled. It seems apparent that the volume of cotton which can be produced at a reduced cost will be greatly increased as a result of mechanization.

A summary of state post-war planning reports indicates that “if farmers adopted efficient farming practices and planted the acreage considered desirable in each area,” there would be 22 to 24 million acres of land more profitable in cotton at 13 cents than in “alternative enterprises at relative favorable prices.”⁷

⁶ United States Department of Agriculture, Agricultural Adjustment Agency. *Information Relating to Cotton Problems*, November 1944, p. 19.

⁷ United States Department of Agriculture, Interbureau Committee on Postwar Programs in Cooperation with Land-Grant Colleges. *Farming Adjustments After the War*. June 1945, p. 55. (Mimeographed for review purposes.)

As cotton-growing efficiencies increase, more and more farmers will be able to sell at a competitive price and make incomes that are as attractive as those received by farmers in other regions. Net farm income is a matter of volume of production, times price, less expenses of production. If the price at which a given volume of cotton can be sold has gone down more or less permanently, then either less cotton must be grown or the price reduced so that the larger volume may be sold. The question of cotton-price policy should be settled soon, for if existing cotton manufacturing establishments should replace their present worn-out equipment with new machines, especially adapted to other fibers, it will add greatly to the difficulty of retaining a large outlet for lint cotton.

Influence of World War II.—High industrial wages and selective service during the war brought about important changes in the man-land ratio in the South. It has been estimated that the decrease in workers on farms in the South ranged from 20 to 30 percent yet, in spite of shortages of equipment and supplies, production increased. Increased output per worker and larger incomes to the farmers of the South is certainly desirable. The most significant development from the farmer standpoint, however, is that he now knows that he *can* produce, especially with the aid of machinery, without a superfluity of labor. Furthermore, for the first time since the War Between the States, he seems to have been relieved of a paternalistic responsibility for those who work for him. For the first time, also, many farmers now have funds necessary to mechanize their farms as well as the skill required to operate the machines.

The war, too, has witnessed progress in the development and perfection of some of the equipment adapted to the conditions of the South. These trends point to an improvement in the man-land ratio and in the efficiency of operation on many southern farms. For example, present results indicate that within a few years many average-sized farm families in those areas adapted to the new-type machines will be able to grow and harvest 60 or more acres of cotton with the aid of only a small amount of hired help. In the better areas, the farmer with good managerial ability, who now commonly produces 10 bales of cotton per year, will be able to produce 50.

In other ways, also, the war has brought about improvements in the methods and techniques of farming in the South. Improved varieties, newer and better methods for controlling insects and dis-

eases, increased use of improved fertilizers, better cultural practices, and more efficient use of labor have all combined to produce higher yields at lower costs. The increased production of small grains and legumes, greatly accelerated by labor shortages during the war, has served both to conserve labor and soil as well as to provide greatly increased quantities of feedstuffs for livestock. This has been reflected both in greater livestock numbers on farms and in higher production per animal.

Quite obviously as improvements in production methods are extended, the volume of production per man will be increased, fewer and fewer workers will be required for production, and southern farmers will move into the position long enjoyed by producers in other sections of the country. In the light of these developments, it seems unlikely that farmers in the South will ever again return to an organization and a system of farming which depends so heavily upon a large volume of hand labor as required by cotton before the war.

The war greatly increased the mill consumption of cotton in the United States, but to a large extent stopped world trade in cotton lint. At the end of the 1944-1945 season, the carry-over of cotton in all locations was 11.4 million bales of American growth cotton and 14.4 million bales of foreign growths, making a world total carry-over of 25.8 million bales, the highest ever recorded. This is equivalent to about one year's normal world consumption.

Competition with Other Fibers.—At the same time cotton has been meeting competition from other and perhaps more threatening sources; namely, from other natural fibers and from synthetics, paper, rubber, leather, glass, and metal. Rayon, the principal synthetic substitute for cotton, has undergone continuous improvement in quality, strength, and adaptation to an increased number of manufactured products for which it may be used. During the period of World War II, the capacity of plants for manufacturing rayon in the United States was approximately doubled. Foreign countries also have increased their capacity to produce rayon.

In 1929 the world production of rayon first reached the equivalent of 1 million bales of cotton. In 1940 it had exceeded 5 million bales. (Table 2.) It is estimated that in 1942 the actual annual production of rayon in the world was equivalent to more than 8 million bales of cotton. Not only has the capacity for the production of rayon been tremendously increased, but the cost of production per

pound has been greatly reduced. For example, the price of rayon staple fiber declined from an average of 60 cents per pound during 1928-1931 to about 25 cents in 1937. By 1945 it was available at only 2 cents per pound more than middling 1-inch cotton. Unlike cotton and other fibers, there has been no increase in the price of rayon since the beginning of the war. Until recently rayon competed with cotton mostly in apparel and household products where appear-

TABLE 2. RAYON YARN AND STAPLE FIBER PRODUCTION IN SELECTED COUNTRIES, BY 5-YEAR PERIODS, 1920-1940

	1920	1925	1930 ¹	1935	1940
<i>Thousands of bales²</i>					
Axis countries					
Germany ³	20.4	150.4	371.3	606.4	1,941.2
Italy	3.7	72.6	157.6	360.9	764.7
Japan	.5	7.5	86.1	559.9	1,235.3
Total	24.6	230.5	615.0	1,527.2	3,941.2
Non-Axis countries					
Great Britain	14.1	70.1	112.5	286.0	352.9
United States	23.8	120.1	300.4	616.8	1,108.6
All others	15.4	15.3	48.5	112.7	199.2
Total	53.3	205.5	461.4	1,015.5	1,660.7
World	77.9	436.0	1,076.4	2,542.7	5,601.9

¹ No rayon staple fiber reported prior to 1930.

² Based upon assumption of 425 pounds of rayon yarn and staple fiber being equal to one 500-pound gross weight bale of cotton.

³ Includes production in territory occupied by Germany at the end of 1942.

Source: Basic data compiled from *Rayon Organion* by BAE, Bureau of Agricultural Economics, United States Department of Agriculture.

ance and style were deciding factors with the consumer. It is now competing in industrial uses such as tire fabrics.

During the last few years, the production of paper products that compete with cotton has increased rapidly. These include bags, towels, gummed paper tape, napkins, and handkerchiefs. During the war, however, cotton replaced jute to a considerable extent in bags and to some extent in wrapping materials for covering cotton bales.

"For cotton to compete successfully with paper and jute, it is essential that cotton products should offer the consumer at least equal value per unit of cost in comparison with corresponding jute or paper products. In this connection, it should be noted that cotton prices act, to some extent, as a ceiling on jute prices, since cotton can be used for practically all purposes for

which jute is used. With due consideration to this factor, the competitive position of cotton in uses where it competes with jute and paper can be improved by steps such as (1) development of lower-cost processing methods, (2) use of better merchandising methods—particularly for cotton bagging, (3) closer adaptation of cotton products to individual use requirements, and (4) emphasizing the higher reuse and salvage values of cotton products.”⁸

Government Programs.—In the depression year 1932, the average farm price of cotton reached the low level of 5.82 cents per pound as compared with an average price of about 16 cents during the period 1925–1929. Farm products generally were depressed in price due to world-wide business stagnation, and heavily indebted farmers everywhere were unable to meet their debt obligations. Beginning in 1933, Congress passed the Agricultural Adjustment Act, which together with subsequent revisions and additions, was aimed primarily at raising farm prices and, in that way, increasing incomes. This legislation provides for an “Ever-Normal Granary,” adjustments in land use, soil conservation, crop insurance, marketing agreements, a variety of efforts to enlarge the markets for farm products at home and abroad, and commodity loans for supporting the price of many farm products on the basis of a percentage relationship to the parity price as established by law.

By these acts, the Federal Government definitely abandoned the free market price for basic farm commodities, and, as an emergency measure, adopted the policy of Government price control. Up to the present time, the policy, although modified greatly during the war, has not been abandoned. Prior to the introduction of these measures from 50 to 60 percent of the cotton lint produced in the United States was sold in foreign markets at world prices. The foreign market dwindled to such an extent that acreage controls were necessary in order to prevent the production of unmanageable surpluses in this country. In the 5 years preceding acreage control, 1928–1932, the average annual amount of land used for growing cotton in the United States was 41.4 million acres. Seven years later, 1935–1939, the crop had declined to 28.5 million acres and during the war 1941–1943 to 22.8 million. The average annual production in the 3 periods was 14.7, 13.1, and 11.7 million bales, respectively. Thus, while acreage declined 44.9 per-

⁸ United States Department of Agriculture. War Food Administration. *Post War Readjustments in the Processing and Marketing of Fiber Crops*. August 1944, p. 72. (Mimeographed.)

cent, production declined only about 20.4 percent. Yields per acre increased from 174 pounds in 1928-1932 to 253 pounds in 1941-1943, or 45.3 percent. Acreage reductions and yields per acre varied widely between areas.⁹

While the acreage of American cotton which was subject to restriction was declining, the average in foreign countries which had begun to increase after World War I, continued to expand. In the period 1925-1929 the average production in the United States was 15.3 as compared with 10.7 millions of bales in foreign nations. During the period 1938-1942 the situation was reversed and foreign production averaged 15.5 million bales as compared with a production of 11.7 million bales in the United States. Thus, production in the United States declined from 59 to 43 percent of the world total production. At the same time consumption of American cotton outside the United States also declined drastically. Between the 1932 and the 1938 seasons, foreign consumption of American cotton declined 46 percent, while the consumption of foreign growths increased 69 percent.¹⁰

In addition to the more spectacular programs designed to maintain farm income through acreage control and the support of farm prices, reference, of course, should be made to numerous other means employed by the Federal Government to assist farmers. These include such widely divergent programs as submarginal land purchase and reclamation. Special mention, however, should be made of the work carried out under the administration of the Soil Conservation Service, the Farm Credit Administration, the Farm Security Administration, and the Rural Electrification Administration. A somewhat more indirect but nevertheless effective aid to agriculture was that which resulted through the efforts of the State Department in promoting a series of "trade agreements" with foreign countries.

On the state level, but with Federal support, the experiment stations and the extension services provide helpful information and advice to farmers, particularly with respect to the physical prob-

⁹ For a detailed analysis of changes in average yields by production areas, see the report by E. L. Langsford, *Changes in Cotton Production in War and Peace*. United States Department of Agriculture, Bureau of Agricultural Economics. December 1944, F.M. 45. P. 2.

¹⁰ For data on production, supply, consumption, and carry-over of American and foreign cotton from 1920 to 1944, see the report of the United States Department of Agriculture, Bureau of Agricultural Economics. *Information Relating to Cotton Problems*, November 1944, p. 1.

lems of production. It is readily admitted that there has not been made available a comparable volume of assistance on problems in the field of economics and sociology. The farmer, therefore, has been left too much in the dark on matters pertaining to public policy affecting agriculture. This has been particularly true in the South.

Features of a Sound Agricultural Economy in the South

Two of the major criticisms now leveled at the agricultural economy of the South are that (1) it fails to provide full-time, year-around employment, and (2) it is not sufficiently diversified. The complaint today is that both planters and laborers are "under-employed," devoting in many cases an average of only 130 to 150 days in the course of a year to productive work. The reason, however, is not due to any inherited or acquired love for "sloth and idleness" but rather to a complexity of circumstances involving such widely divergent factors as birth rates and freight rates.

The dream of a Utopia is, of course, neither new nor sectional. It was ably expressed by the eloquent Henry W. Grady as far back as 1887 when he talked to a Texas audience and said, "As I think of it, a vision of surpassing beauty unfolds to my eyes. I see a South, the home of fifty millions of people, who rise up every day to call from blessed cities, vast hives of industry and of thrift; her countryside the treasures from which their resources are drawn; her streams vocal with whirring spindles; her valleys tranquil in the white and gold of the harvest; her mountains showering down the music of bells as her slow-moving flocks and herds go forth from their folds; her rulers honest and her people loving; her homes happy and their hearthstones bright; her waters still and her pastures green; her conscience clear, her wealth diffused and her poor houses empty; her churches earnest and all creeds lost in the gospel."¹¹

With sweeping strokes and in technicolor, the Georgia statesman more than fifty years ago painted the essential features of a sound economy in the South—a *balanced* agriculture planned to conserve the soil; a *diversified* industry designed to consume the raw materials of mine and farm; a happy people secure under the

¹¹ From a speech at the Dallas, Texas, State Fair on the 26th of October, 1887. Taken from the book, *Life of Henry W. Grady, Including His Writings and Speeches*. Edited by Joel Chandler Harris, 1890, p. 120.

rule of an honest government. During this early period, even as today, no one crop nor even a combination of crops could make a people prosperous. For as Mr. Grady warned and so aptly illustrated, "No commonwealth ever came to greatness by producing raw materials. . . . Hardly . . . is the South profited when, stripping the harvest of her cotton fields, or striking her teeming hills, or leveling her superb forests, she sends the raw material to augment the wealth and power of distant communities."¹²

What, more specifically, constitutes a desirable pattern of agriculture in the southern region? Obviously it is something different from that which now prevails, or else why should the South be characterized as "the Nation's No. 1 economic problem" and why should a score of organizations and agencies be engaged in a frantic search to discover ways and means for improving economic opportunities in the South.¹³

Alternative Opportunities and Full Employment.—It is not sufficient however, to state merely that the pattern of agriculture in the southern region should be different. Different? Yes! But in what respects? In the minds of many people the answer somehow is tied up with cotton. To some it means less cotton, to others more, to still others a shift in the areas of cotton production. This sort of reasoning is not unexpected in view of the current cotton situation and the historic position of the crop in the agriculture of the region. Undoubtedly the answer to the cotton problem will be found, at least partially in one or the other of these proposals. None of them holds the "key" for which farmers and others are looking to unlock the doors of economic opportunity in the South. If cotton acreage is to be reduced, for example, the reduction will be brought about because there are other avenues of employment which lead to a brighter future and not because someone seems to think there is too much cotton. As one writer has stated, "Any crop so economically important to such a large group of people for such a long time as cotton will require more than a first class funeral before it is finally 'laid out'."¹⁴

¹² Ibid., pp. 111-112.

¹³ Particular attention is called to the study of the post-war agricultural and economic problems of the Cotton Belt in which all of the Southern Agricultural Experiment Stations and many other agencies, public and private, are now cooperating.

¹⁴ G. H. Aull, "The Future of Cotton in the Economy of the South," this JOURNAL, Vol. XXIII, No. I, Feb. 1941, pp. 121-124.

A southwestern planter, writing one hundred years ago in *DeBow's Review* offers as a "first requisite" to a desirable adjustment the following: "Let the planter set to work himself . . . let him make his bread, his meat, raise a few colts and hay to feed them on; let him increase the quantity of corn and forage until he can spare a little . . . let him ever remember the old saying, 'master's footsteps are manure to his land' and we think he will have less cause to repine and more cause to think that his 'lot is cast in happy places'."¹⁵

He further observes: "That manufactories would benefit this portion of the United States, there is not the shadow of a doubt; that Legislative aid, directed to developing the latent facilities of the country would, is evidently plain. That making less cotton would enhance the price is highly reasonable. But were all these done, and the present practice pursued, the improvement would be delusive . . . There is one thing certain, the planters of the South and South-west must give up sloth and idleness; they must take the lesson taught by Hercules to the wagoner,—'put your shoulder to the wheel.' Besides this they must pursue a more mixed course of husbandry."¹⁶

One of the primary adjustments needed in southern agriculture is one which will provide more people with more productive work over a longer period of time each year. To do this will require both individual and group action designed to bring about a considerably higher level of education and enlightenment; more diversified agricultural enterprises with emphasis on efficiency of production and high production per worker; relatively fewer people engaged in primary production of raw materials with correspondingly larger numbers in processing, manufacturing, trade and service enterprises, and the professions; greatly improved systems of local government and public finance rendering larger services more efficiently and for the benefit of all the people; and finally a more prosperous people with higher levels of living, greater purchasing power and increased ability to cope with the broad social and economic problems confronting a modern world.

Diversification.—An indication of what these needed adjustments might mean in terms of farm people, land-use and volume of agricultural production is to be found in a summary of opinions ex-

¹⁵ *DeBow's Review*, Vol. I, No. 4, 1846, pp. 434-436.

¹⁶ *Ibid.*

pressed by production specialists, agricultural economists, extension workers, state statisticians, and other state and federal agricultural workers familiar with conditions in the South. For example, under conditions of a high level of employment and a national income of around 150 billion dollars with farm prices about 60 percent above the 1910-1914 level and prices paid by farmers only slightly higher than this, it is believed that livestock production in the South could reach a volume 40 percent above prewar (1935-1939). Cash crop production would not likely not expand to so great a degree but could easily reach a volume one-third higher than prewar.¹⁷ Included in these approximate totals is an increase of 30 percent in cotton production, 50 percent in tobacco, 40 percent in grains and hay, and 15 percent in truck crops and fruit. Also a 30 percent increase in dairy products, a 15 percent increase in poultry and poultry products, and a 20 percent decrease in work animals.

Under the conditions assumed, which are those accompanying any desirable pattern of agricultural production, the total number of farms in the South is expected to decrease 8 percent. Involved in this change would be a decrease of 4 percent in the number of commercial farms, and 27 percent in the number of self-sufficient farms, and an increase of 24 percent in the number of part-time farms.¹⁸ Along with this, total employment on farms would decline by about 8 percent. Many sharecropper families would enter the ranks of hired labor, and the number of regular hired workers on farms would be expected to show an increase. The number of family workers, however, including sharecroppers, would decline by an estimated 10 percent. Production per worker would increase more than 50 percent.

In general these changes would be accompanied by somewhat larger acreages in small grains, hay and other close-growing crops which lend themselves to mechanical methods, and in tobacco where the demand seems not to have reached its peak. No large-scale shift away from cotton would occur although improved practices and more acres per farm would result in greater returns per worker, even at world prices. In fact, there can hardly be a desirable

¹⁷ These figures are taken from a preliminary report. United States Department of Agriculture. Inter-bureau Committee on Post-War Programs in Cooperation with the Land-Grant Colleges. *Farming Adjustments After the War—Possibilities Under Prosperity Conditions*, June 1945.

¹⁸ Sharecropper units were not included as "farms" in making these estimates but were considered rather as parts of other farms, mostly commercial.

pattern of agriculture in the South if it does not take into account the production of a high volume of low-cost cotton which will sell at a price attractive to the markets of the world. Cotton, however, must not be produced at the expense of the soil nor subsidized by the unpaid labor of women and children. The pattern of southern agriculture in the future should be characterized by "balance"—balance between cash and feed crops, balance between soil-conserving and soil-depleting crops, balance between crops and livestock, and balance between agricultural and nonagricultural employment.

Emphasis on Family-Sized, Owner-Operated Farms.—In an even more important sense, there is need for a better balance in the pattern of southern agriculture in the matter of man-land relationships. Although there are many ways in which the status of farm tenants and croppers can be raised, it is unlikely that a satisfactory agricultural economy can be constructed with a farm population that is so largely nonowner. Certainly the improvement of farming opportunities in the South requires that consideration be given to means which will enable an increasing proportion of farmers to have an ownership relation to the land on which they work and live. This is no easy task and it cannot be done by wishful thinking or 100 percent loans. The basic solution is through better education, stimulated ambitions, and enlarged opportunities for employment in nonagricultural enterprises.

Not only should more of the farms in the South be owned by those who operate them, but emphasis should be given to those policies and programs which favor an efficiently operated family farm. A high proportion of the farming units in the South today are too small for efficient operation by a family. Many of them, no doubt, serve as rural residences for nonfarm workers, and others will find their best use when devoted to a similar purpose. Still others, however, could serve to enlarge adjacent farms if some more profitable opportunity could be found for those who now struggle against heavy odds to make them pay.¹⁹

Industrialization.—If the owner-operated family farm should characterize the future agriculture of the South, and, if this farm is to be efficient and provide a return commensurate with the labor expended upon it, and comparable to that enjoyed by other oc-

¹⁹ For a more complete statement of policy on these issues see the report by Committee on Postwar Agricultural Policy of the Association of Land-Grant Colleges and Universities, *Postwar Agricultural Policy*, October 1944, pp. 30-38.

cupational groups, then it will be necessary to create an increasing number of non-farm jobs for those who will not be needed in agriculture.

This implies need for an expansion of industry in the South, not, as some suppose, at the expense of other sections of the country but rather *new* industry and *new* jobs in trades, services and professions. It has been suggested that the number of workers engaged in nonagricultural pursuits in the South might very well increase from about eight million in 1940 to more than thirteen million by 1956.²⁰ A decrease in the number of workers engaged in agriculture would accompany this and still leave the South far more agricultural and much less industrialized than was the rest of the United States in 1940. There is no reason to suppose that this development, if it should come, would disadvantage any other section of the country. On the other hand it undoubtedly would bring to the South some of the benefits of a balanced economy which in the past has not been its privilege to enjoy.

To be most effective, the industrial development of the South should be decentralized, integrated with southern agricultural systems and rooted in the resources of the area. For example, considerable progress was made during the war years in the processing of cotton for fireproof insulation, for use in laminated plastics and for making light-weight, wind resistant, and water repellent fabrics for clothing. Beautiful rugs, for example, made of cotton and having the appearance of orientals are now on sale in the metropolitan department stores. Cotton, when properly selected by varieties, can provide comparable results and often superior results to substitute textile materials. To be so used, however, it must compete on a price as well as a quality basis.

Agricultural-Industrial Relationships.—While agriculture provides many of the basic raw materials, industry provides the bulk of the market. Industry also supplies much of the equipment used by farmers while farmers supply much of the manpower used by industry. Industrial cities and towns serve as trading centers for farmers but farm forests and rural streams meet the recreational needs of urban residents. If these rural-urban relationships are to be most appreciated and best enjoyed, they must be close and personal. This means that in the future it will not be necessary for

²⁰ United States Department of Agriculture, *A Conversion Program for the Cotton South*, Washington, D. C., April 1945, p. 13.

such a high percentage of the farm boys and girls born in the South to migrate to other areas for employment.²¹ The results will be doubly beneficial in that the South not only will be spared the loss of many of its best citizens, in whom it has made a considerable investment, but it will enjoy the products of their labors and the value of their trades. While some migration is necessary and healthy, it should not be all one way. A constant net movement of population from one section to another indicates a maladjustment which should be corrected if the general welfare is not to suffer.

Since industrialization leads to a change in consumption levels, as well as an increase in purchasing power, it is quite likely that industrialization of the South would result in a significant decrease in the number of workers engaged in farming and also make important shifts in the type of farming practiced.²² These changes will undoubtedly be reflected in greater demand for fresh fruits, vegetables, milk, butter, eggs and meat. The change may usher in the much discussed and long awaited era of diversification in the South. If so, a high level of nonagricultural employment at good wages may well accomplish more in raising the level of living of southern farmers than all the action programs of the past decade.

Agricultural Price Policies.—It now appears that the extent to which cotton can continue to compete with substitute materials for the various uses for which it is adapted will depend to a considerable extent upon the price of products made from cotton when offered to the consumer. This in turn depends on increased efficiencies in cotton growing, ginning, marketing, processing, manufacturing and in the merchandising of cotton products which are allowed to be reflected in prices.

Methods used in the production of raw cotton are on the threshold of revolutionary changes which will modernize cotton growing and greatly increase the number of acres of cotton per grower. Complete mechanization of the cotton crop is close to becoming a startling reality! The use of better cultural practices and the growing of cotton on the better adapted and more fertile soils also have

²¹ As an illustration, the Census of 1930 reports residence in other states of more than half a million people born in South Carolina. In contrast less than 150,000 residents of South Carolina reported having been born outside the state. Julian J. Petty, *The Growth and Distribution of Population in South Carolina*. South Carolina State Planning Board, Bulletin No. 11. Columbia, S. C., July 1943.

²² Karl Brandt, *The Reconstruction of World Agriculture*. W. W. Norton & Company, Inc. New York, 1944, pp. 252-253.

been shown to increase the production per acre. Altogether, these changes will increase the amount of cotton and cottonseed produced per man and place many farmers in position to make a profit on cotton even at competitive prices. On the other side, under controlled prices, the foreign market is disappearing. In the domestic market competing fibers, especially synthetic fibers, are threatening to reduce or at least limit the amount of cotton consumed.

It appears that farmers in the South need to make an important decision with regard to cotton price and production policy. The question is, would the economic interest of a majority of farmers be served better by (1) abandoning the present parity price concept and accepting world prices for cotton with freedom from any restriction in cotton acreage, or (2) restricting acreage to the extent necessary to limit production to approximately the volume that would be consumed at a price related to the parity concept and supported by the Federal Government? Stated in another way, which policy would make the greater contribution to the general objective of raising incomes on farms in the Cotton Belt?

The production control, price-support program would not, of course, solve the problem of competition from synthetic fibers produced in this country. Likewise, to adopt the world price and freedom of production idea in vogue before 1933 would not necessarily imply abandonment of all income and level of living supports to agriculture. As to this latter, many different proposals are receiving consideration, and it is important that farmers have a clear understanding of them and of the long-time consequences that might be expected to result from their adoption. In this situation educational institutions have an immediate and grave responsibility.

Obstacles to Adjustments in Agricultural Economy of the South

Despite the need for and the opportunity to attain a sounder and better balanced agriculture in the South, there are serious practical difficulties to the attainment of these ends. It is much easier to visualize needed adjustments than it is to formulate a program that will bring them about.

In the first place, it must be recognized that the South is a mosaic pattern of differences. The problems associated with adjustments vary from area to area within the region. Hence, it is difficult to make valid recommendations that are applicable to the Cotton Belt as a whole.

Some areas, for instance, are so well adapted to the production of cotton that it will continue to be produced even if the price-ratio decreases significantly. In other areas opportunities for various types of specialty farming and for livestock and dairying can be developed. There are still other areas with relatively dense rural populations that are not very well adapted to either production of cotton or any other intensive crop enterprises.²³

The opportunities for and problems of adjustments should be analyzed area by area as a basis for remedial action. There are, however, more general implications which can be dealt with in an over-all study.

Resistance to Change.—People in rural America are generally characterized by conservatism and resistance to change. The spirit of individualism is strong, and nowhere is there a stronger sense of tradition and conservatism than in the cotton South. The prevailing economy, together with its land tenure system and other supporting institutions, has social, political and racial as well as economic complications. There is a deep attachment to the established agrarian ways of life and the habits and institutional patterns of the region are deeply embedded in the thinking and behavior of the people. Programs of improvement thus must carry a strong appeal in order to overcome the tendency to cling to the old and resist that which is new.

Low Educational Levels.—Recognition is given to the need for a higher level of educational training in both the general and vocational fields, and for both children and adults. The major obstacle is inadequate financial support. The problem of limited resources is further complicated by the fact that the population under 20 years of age in the 13 Southern States in 1940 was 26.5 percent greater than in the rest of the United States. In the East South Central States there were 422.8 children under 5 years of age per 1,000 females between the ages of 15–44, whereas New York State had only 285.8 per 1,000, a difference of 48 percent. The Southern States have only about one-fifth as much funds as New York and a number of other states with which to educate a little more than one-fourth as many children. A recent report of a Harvard educational committee points out that if South Carolina spent *all of*

²³ Special attention is being given to these problems in the study now under way on postwar agricultural and economic problems of the Cotton Belt under project I, "Production Adjustments to Improve Farming Opportunities in the South."

its state funds for education, it would be spending less per pupil than several nonagricultural states.²⁴

The fact that educational needs do not stop with the school age groups but include adults as well, makes the problem more difficult to solve. More adequate educational and rural community service programs would facilitate needed adjustments and better farm practices in those areas where deficiencies are most noticeable. But these facilities and services are usually not adequate due to insufficient public funds.

Inasmuch as some of the Southern States are now spending approximately one-half their total public revenue for educational purposes, and the services are still far from adequate, suggests that Federal funds are not only needed, but indispensable if the South is to be brought up to the level of other areas. The improvement of inefficient school administration as well as a more equitable distribution of available funds within the different states also would improve state and local school systems.

Inefficient Farm Practices.—Increasing significantly net produce per man on farms faces rather serious difficulties. This is not to imply that improvement could not be made and with little effort, but any program designed to raise the per labor unit of production up to the national level must cope with major obstacles.

Agricultural adjustments based on better farm organization and sound farm management practices will mean more diversification. There will be less emphasis on row crops and more on cover crops, pastures, livestock, forestry, and a more general type of agriculture. It will also mean a very sharp increase in the utilization of farm machinery and equipment of all kinds. Such a program will necessitate a significant reduction in the number of people now on the land. The matter of finding alternative economic opportunities for surplus population that is recurrent due to the incidence of a high birth rate will be a very difficult problem.

A recent study of the Delta area of Mississippi indicated that relatively complete mechanization, which is now feasible from both a technological and economic viewpoint, would displace something like two-thirds of the farm population that was on the land in that area in 1940. Even in those areas where relatively complete mechanization is not feasible, a more extensive type of agriculture

²⁴ Committee on the Objectives of General Education in a Free Society. *General Education in a Free Society*. Harvard University Press, 1945.

adapted to sound land-use practices would displace somewhat comparable numbers of persons.

Another seriously limiting factor closely related to that of pressure of people on resources is that of small operating farm units. With them it is difficult, if not impossible, to make enterprise adjustments that place greater emphasis on livestock production, forestry, or other more extensive types of agriculture than cotton, or that utilize modern farm machinery and equipment. The matter of readjusting the size of operating units is an extremely difficult problem because additional land is not available. Alternative employment opportunities in industry within or without the area would facilitate such adjustment.

Farming units are not only too small for sound organization and efficient operation, but they are inadequately supplied with buildings and farm equipment. In 1940 the cotton region had 46.9 percent of the farms in the nation and only 27.1 percent of the total value of farm property. This suggests a wide gap that needs to be filled before the area will be in a favorable position with other parts of the country.

The disparity in amounts of farm machinery and tools is even more striking than the disparity in farm buildings. For each one thousand acres of cropland southern farmers have one-third less invested in farm machinery than do those in the Midwest. Southern farm workers using relatively limited farm power and equipment, are not competitive equals in terms of production as compared with other farm workers using much better equipment nor with industrial workers whose efficiencies have been multiplied many fold both through the use of specialized tools and machinery and through effective organization. Thus, lack of adequate buildings and related facilities, lack of modern farm power and equipment, and lack of efficiency in using these will undoubtedly delay needed adjustments. It will take time and effort and capital to make up these deficiencies.

Another limiting factor to sound farm adjustments and efficient operation is adequate farm credit. In the past it has been based largely on cotton, and the risk factor for it has been fairly well established. Credit for the development of new enterprises has not been so readily available. It is true that the credit situation with reference to the development of new enterprises has improved

with the program of the Farm Credit Administration, but habits and institutional practices change slowly, and potential credit is not always effective.

The extension of livestock and dairy enterprises may be taken as an example of credit needs. Because livestock calls for an adequate feed supply and because only limited areas within the region are naturally well-adapted to the growing of forage crops, credit is often needed for feed or to build up the soil. Pasture for profitable cattle grazing cannot be established merely by fencing off a field and allowing the grasses already there to seed themselves by natural processes. Grasses must be found that are adapted to individual soils; lime and fertilizer must be applied in many instances, and mowing must be done at the proper time in order to realize the maximum feeding potential from a given acreage. Building good pastures in most parts of the areas is a slow, expensive, laborious process. Furthermore, considerable investments must be made in the building of new herds and enlargement of old ones.

The very low farm incomes that prevail in the area make impossible large investments out of current earning. Adequate credit adapted to individual adjustment needs is a more serious problem than is generally believed. Along with this need for credit, of course, is the need for a better understanding of how credit can be most effectively used.

Unsatisfactory Conditions in Rural Areas.—The resistance to change, lack of technical and scientific knowledge, inertia and indifference, all stand in the way of improving farm living through diversification and the increased production of food for home consumption. Diversification in terms of greater production of food and feed for home consumption is perhaps needed most on small and medium sized farms where full employment is essential. On the larger farms, increased efficiencies can be attained through better farm management practices. It is questionable how far diversification should be extended on large farms except in those instances where diversification makes for fuller annual employment of the existing labor supply.

Diversification should be pointed toward taking the pressure off cotton as the major cash crop and increasing the employment opportunities for farm families now underemployed. Lack of ade-

quate information as to what to grow, how to grow it, how to prepare it for marketing, and finally, how to market it, are barriers to diversification and better farm living.

Many factors hinder the attainment of better rural living through cooperatives and through the utilization of wider and better institutional services. A strong individualism as well as lack of adequate information on the operation of cooperatives deter farm people from improving their status through these means. Social security for rural people; better health programs and services; limited educational research; and other agricultural service programs are difficult to attain because of inadequate tax resources. These can be adequately provided only through a close cooperative effort on the part of state and federal governments. A satisfactory development of these types of programs on a cooperative basis comes slowly.

Local government in the South is closely related to the everyday problems and happenings of the people. It influences their economic and social well-being in many ways. Both in form and in operation rural local government in many areas is still the same as in the early frontier period. It is relatively inefficient and inadequate in terms of the requirements of a highly developed complex society that provides modern communication and transportation. The level of rural living could be raised significantly without any additional tax burden to rural people if local governments were streamlined into modern and efficiently operated units run by competent personnel. In most instances neither state nor local government contribute greatly to the planning for better rural living and fail to provide the institutional services that would otherwise raise the economic and social life of rural people.

Inadequate Marketing Facilities and Services.—The problems associated with developing adequate marketing facilities, new market outlets, and related institutional services need attention. Production consumed within the area also needs consideration, for failure in the past to make a simultaneous attack on production and marketing problems has been responsible for disappointments in development of new production. Present knowledge of marketing requirements for cotton alternatives is fragmentary. A very considerable amount of additional research is needed in this field as a guide to agricultural production adjustments.

Up-to-date factual information on the amounts and kinds of products that will be absorbed in local, national and international

markets is needed. Basic needs for the area itself from the standpoint of diets and health along with trends of consumption should be determined. Specific requirements in readjustments in markets, methods, institutions and facilities also are needed. Some of these adjustments in marketing must precede adjustments in production.

Limited Nonfarm Employment.—Closely associated with the many problems inherent in sound agricultural adjustments for the southern region is that of limited industrial development within the area. Ways must be devised for relieving the pressure of people on the available resources. Increased industrial development within the area would mean more and better markets for diversified agricultural production; alternative employment opportunities; improved incomes that result from the processing of raw materials into finished products; and a broader tax base for the support of additional public services. At the present time, too much of the region's raw materials and semifinished products are shipped out for processing with the result that the finished products are returned at much higher prices. This exportation of raw resources and importation of finished products keeps the region poor, tends to perpetuate the one crop system, and hinders adjustments that would result in a better balanced agricultural economy as well as a better balanced general economy for the South.

Some of the barriers to increasing industrial development are as follows: differential freight rates that have tended to penalize the southern region; discriminatory tax policies; inadequate capital; lack of local initiative and leadership; absence of local markets and institutional services for industry; and outside control of capital and production policies.

Converting the South from a colonial status, where it provides raw materials and cheap labor for the benefit of other sections of the country, presents a series of challenging problems. Even though progress is being made in the solution or amelioration of a number of the problems involved, it is a slow difficult progression. Until these problems are solved, however, and progress is made on moving from the primary industries of agriculture, mining, and forestry to manufacturing and other services, some of the basic fundamental problems of the area will continue to be unsolved. When the three categories of agriculture, industry, and services approach the balance which is characteristic of the nation as a whole, the area will cease to be the No. 1 economic problem of the nation.

*Economic and Social Significance of Alternative
Lines of Action*

The problems of southern agriculture, with their many ramifications, have been built up over a period of many years. They will not be corrected overnight, nor will programs which fail to strike at the fundamentals permanently alleviate them for the problem is much bigger and more complicated than cotton. The probabilities are that for a long time cotton will continue to represent the core of any agricultural program in the South regardless of whether the problem is approached from the so-called commodity basis or from an over-all regional standpoint. Although many alternative lines of action have been proposed, they may generally be classified under one or the other of the following:

1. Parity prices for all cotton.
 - (a) Production controlled by means of marketing quotas and penalties for marketings in excess of quotas. No Government payments.
 - (b) Production controlled by means of acreage allotments. Government payments to induce planting within acreage allotment and penalties for over-planting but marketing cotton produced on allotted acreages.
2. The "two-price" system.
 - (a) Exports subsidized.
 - (b) Exports not subsidized.
3. World prices for all cotton.
 - (a) No Government programs.
 - (b) Income payments representing the difference between parity and world prices.
 - (c) Conversion program.

Parity Prices for all Cotton.—Parity prices as now calculated for cotton undoubtedly are above world prices. Therefore, in the absence of export subsidies little or no cotton would be exported. It has been tentatively estimated that with full employment and high national incomes parity prices for cotton would be about 20.5 cents per pound and that under these conditions about 8 million bales might be consumed annually in the United States during the first decade after the war. Under conditions of moderate unemployment the parity price might be about 17.5 cents and annual

domestic consumption about 7 million bales.²⁵ With present per acre yield expectancies these quantities of cotton could be obtained from about 14 and 12.5 million acres respectively. This is only slightly more than one-half the acreage planted to cotton annually during the prewar years, and is less than one-third the acreage used for cotton during 1925-1929.

If cotton production were restricted to the quantity that could be sold at parity prices, a very extensive shift to other enterprises and rigid Government controls would be necessary. As cotton is a heavy labor-using crop this would mean a heavy displacement of farm workers; also of workers engaged in ginning, marketing and processing of cotton and cottonseed. Two general ways in which controls might be effected are: (1) through marketing quotas on production, with heavy penalties for markets in excess of quotas and with no Government payments, and (2) through acreage allotments with Government payments to induce planting within the allotted acreage, and with penalties for over-planting but with no penalty for marketing any amount produced on the allotted acreages.

Incomes to farmers would be less with marketing quotas than with acreage allotments by approximately the amount of payment made under the latter arrangement. If the acreage control route were followed farmers that could do so economically would increase yields and thereby at least partially offset the reductions in acreage. This is what happened under the Agricultural Adjustment program in operation before the war. United States cotton acreage planted during 1941-1944, for example, was 45 percent below that of 1928-1932 but production was only 20 percent less. The opportunity to increase yields is not the same in all areas of the Cotton Belt. For example between the 1928-1932 and the 1941-1943 periods farmers in the Delta areas *reduced acreages* by almost one-third, but *increased production* by about 20 percent, whereas farmers in the Texas Blacklands *reduced acreages* by about 50 percent and *decreased production* by about the same percentage. In other words, under acreage control programs the per acre yields in the Texas Blacklands remained about the same, but those in the Delta increased nearly 75 percent.

²⁵ Report prepared by O. V. Wells for subcommittee of Agricultural Committee of the House of Representatives. Some think that domestic consumption is higher than would prevail over a longer period.

If stocks were prevented from increasing materially, it would be necessary to adjust acreage allotments downward as yields were increased. Unless some more satisfactory way than historical bases were found for determining individual farm acreage allotments, the areas and farms on which yields can be increased would obtain a progressively larger share of the total production. In some instances this might tend toward more efficient production, but on others the results would be towards subsidizing inefficiency.

If the marketing quota route is followed, there will not be as strong an incentive to increase yields per acre except in those cases where there is another enterprise which is seriously competing with cotton for the use of resources. In other words on those farms where cotton, even produced fairly inefficiently, will give higher returns per acre than the next most profitable enterprise, efficiently conducted, the quota likely will be produced on more acres with lower yields than would be the case with acreage control. The proportion of the total production contributed by the various areas would tend to remain more stable.

As previously stated, incomes would be higher, at least by the amount of the Government payments, with acreage control and Government payments than with marketing quotas. But there would be considerable cost to the Government. The question arises whether the public will continue to permit payments of this kind indefinitely.

Assuming a high national income and full employment, it has been roughly estimated that Government payments, under the acreage control plan, would be about 380 million annually the first decade after the war and about 440 million annually the next decade. Even if there were no restrictions on the use of land diverted from cotton the gross income to southern farmers perhaps would be less than with most other lines of action. In addition there are several other weaknesses with parity prices for all cotton: (1) It does not give a permanent solution to the basic problems, (2) it places United States cotton in an unfavorable position with its competitors and reduces its consumption, (3) it encourages inefficient farmers who have been growing cotton to continue, and (4) under strict control conditions it would tend to prevent those farmers who would profit by producing more cotton, even at lower prices, from doing so.

The "Two-Price" System.—A considerable volume of cotton

could be exported from the United States at world prices even if domestic prices remained at or near parity. Thus, the total consumption of United States cotton would be considerably greater if cotton were available for export at world prices than if all cotton sold at parity.

Under a plan providing that parity prices be given for cotton sold domestically, and exports subsidized to sell at world prices, some kind of production control would be necessary. In essence farmers would be receiving parity prices for all of the cotton they produced, and production likely would be greater than could be sold. Under a plan permitting export with subsidy, however, the cotton acreage would be considerably larger than under a plan providing for parity price for all cotton.

With a program providing for parity prices for domestic consumption and exports at world prices but with no subsidies, the gross value of cotton and cottonseed would be considerably higher than with parity prices for all cotton, but somewhat less than if export subsidies were paid. Total gross income, including Government payments perhaps would be less under this plan than under the other alternatives mentioned, but the cost to the Government also would be lower. This plan would necessitate setting up quotas for individual producer's shares of the amount of cotton consumed domestically.

Under either system of exporting, with or without subsidies, and with parity prices for domestic consumption, import limitations on raw cotton and cotton textiles would be required because foreign manufacturers would have access to cheaper raw materials than would domestic mills. Exports of cotton textiles, unless subsidized, would be reduced under any arrangement which provided for a higher price for domestic than for foreign cotton.

In addition to these objections to the "two-price" system, many people believe that export subsidies, in the absence of a multilateral international cotton agreement, will lead to retaliatory measures on the part of other exporting countries. Besides this, export subsidies are considered by many people to be contrary to sound long-time international trade policies.

With cotton entering into world trade at competitive prices, United States cotton would tend to hold its share of the world market in competition with foreign growth and with substitutes, but with parity prices in this country it would even fail to meet the

competition of substitutes here. A program providing for exports at world prices without subsidies and without acreage controls would permit farmers who could profitably increase cotton acreage and production under these conditions to do so. However, because parity prices would be received for the cotton consumed domestically, it would tend to keep some farmers in cotton production who are not efficient producers. Neither of these plans would prevent farmers from shifting to other lines of production, but neither would they encourage such shifts.

World Prices for All Cotton.—The only way the consumption of United States cotton can reach its full potential is to meet its competitors in the market places, both at home and abroad. To do this means selling in a freely competitive market with foreign growths and with synthetics and other substitutes. Conversely, the surest way to reduce the potential consumption of United States cotton is to maintain prices above competitive levels.

If all Government price supporting devices were removed, the prices of United States cotton, which are now considerably above world prices, would revert to that level. Just what that would be depends upon a number of factors. It has been estimated that under conditions of full employment and a high national income in this country, with a favorable foreign situation and with an orderly disposal of stocks, that 13.5 million bales of United States cotton could be sold annually at 13 cents per pound during the period 1950–1955.²⁶ More recent estimates indicate that the 13.5 million bales might be obtained at a price of 11 cents.

Under these conditions the gross income from lint and seed would be considerably higher than it would be from 7 to 8 million bales sold at parity prices. Likewise total gross farm income, excluding Government payments, likely would be as large or larger than under a parity price plan. However, total gross farm income would be less than with any other alternative lines of action discussed in this report if Government payments were included as a part of the other alternatives.

Without Government programs there would be a tendency for a larger percentages of the cotton to be produced in those areas and on those farms best adapted to its production. Farmers who could materially reduce the cost of producing cotton probably could make

²⁶ United States Department of Agriculture. *What Peace Can Mean to American Farmers. Postwar Agriculture and Employment*. Misc. Pub. No. 562. 1945.

the adjustment to lower prices. But the adjustment required might mean reducing or eliminating cotton on many farms, and it would be rather painful if some outside assistance was not given during the period of transition from cotton to other systems of farming. Even though the process was very painful, these adjustments when consummated might redound to the benefit of cotton farmers if the enterprises alternative to cotton were profitable, and if off-farm employment was available. If on the other hand, other alternatives were not available, the adjustments probably would not be made and farmers in the high cost, as well as other areas, would continue to grow cotton and the results would be extremely low incomes to cotton farmers.

If adjustments to world prices for cotton could be effected without serious losses to cotton farmers, the South would be on a sounder agricultural basis from a long-time point of view. Some way should be found, however, to cushion the shock and speed up the process so as to prevent some of the hardships that would result from forced adjustments to world prices.

A program which would permit all United States cotton to sell at competitive prices supplemented with Government payments representing the difference between parity and competitive prices has been suggested. Such a program could perhaps be justified best on a temporary basis. Although part of the incomes would be in the form of Government payments, the farmers' production response probably would be about the same as if parity prices were guaranteed for all the cotton grown. Under such conditions cotton likely would be much more profitable than other alternative enterprises on many southern farms. Therefore, the production would be larger than could be readily disposed of under anything like reasonable prices. Consequently production controls would be necessary or Government payments would rise to extremely high levels.

This program might be less likely to invoke retaliation on the part of other cotton producing countries than direct export subsidies. Nevertheless, there would be a strong possibility that other nations would also subsidize their cotton producers. Just how far the Governments of producing countries would go with subsidies, in the absence of an international cotton agreement, is difficult to estimate.

Under this program cotton would move freely in domestic and

foreign trade. Therefore, consumption would be maintained at high levels and the total production, without acreage restrictions, would clear the market.

The cost of the program to the Government would be high and would continue high indefinitely. Artificially maintaining cotton prices at a higher level than its true competitive position dictates would not be conducive to desirable long-time adjustments in the South. Therefore, it would not solve the fundamental problems of southern agriculture.

As previously indicated the impact of permitting the price of all United States cotton to be sold at competitive prices would be tremendous. Therefore, some assistance should be provided to cushion the shock. The outline for a program of this sort was presented to the subcommittee of the House Committee on Agriculture by former Secretary of Agriculture Claude Wickard.²⁷

The major elements of this suggested program include:

1. United States cotton would be permitted to sell in domestic and world trade at competitive levels in order to maintain its potential markets in competition with substitutes and foreign cotton.

2. Cotton price-adjustment payments would be made to farmers for a specified number of years to bridge all or part of the gap between competitive prices and parity prices. These transition payments to an individual farmer would be based upon his prewar cotton acreage. Therefore, they would have no direct relation to the amount of cotton produced during a given year. This would provide for a high degree of flexibility. Farmers who wished to reduce their cotton acreage and shift to other enterprises could do so without sacrificing payments. Other producers whose farms are well adapted to cotton production could increase their acreage and yet receive payments while they were adopting more efficient practices. These payments would be progressively diminished each year for a limited period—perhaps five years. For example, during the first year the price adjustment payment per pound of allotment cotton would represent the full difference between competitive prices and parity. Eighty percent of the difference would be paid the second year, 60 percent the third year, 40 percent the fourth year, 20 percent the fifth year, and none thereafter.

²⁷ United States Department of Agriculture. *A Conversion Program for the Cotton South*, Washington, D. C. April 1945.

3. Guidance and assistance would be offered to farm families who need to shift from their present farming operations. Even if cotton price-adjustment payments were made for a period of five years, there are many farmers who would need additional assistance in changing their farming systems so as to rely less on cotton as a source of income. In addition, many farmers would need help in shifting to nonfarm occupations if undue hardships are to be avoided. The conversion program would provide individual farmers with the following:

- (a) Payments for taking certain steps toward a long-time desirable system of farming.
- (b) Technical guidance for carrying out desirable adjustments.
- (c) Help in obtaining credit for:
 - (1) Erecting new or improving old farm buildings.
 - (2) Purchasing livestock and machinery.
 - (3) Enlarging farms where needed.
- (d) Suggestions for obtaining long-time leases on additional land where needed.
- (e) Help in finding buyers or lessees for those who wish to sell or lease their land.
- (f) Assistance for those who desire to leave the farm by:
 - (1) Training them for other occupations.
 - (2) Helping them locate nonfarm jobs.
 - (3) Giving financial help for travel to areas of new employment.

Participation in the farm reconversion program would be entirely voluntary, but assistance would be conditioned upon the farmer making and carrying out an individual farm plan which had been approved for technical adequacy. Workers on the program would work with each farm family that manifested an interest in the conversion program and help to develop a long-time plan either for the farm or off the land.

The farm plans, most of which would require five or more years to carry out, would aim at a stable system of crop and livestock production which would help the farm family maintain an adequate level of living and at the same time take all the necessary steps to maintain and improve the farm plant. Each farm unit, by the time the plan has been carried out, should be large enough and sufficiently well organized to employ fully the labor of the farmer

and his family. In cases where the farm itself did not offer such employment opportunities, the farm plan should definitely include supplementary income from nonfarm sources.

Payments to farmers in the program would be made for practices only if they represented a part of an approved farm plan. They would be made at a uniform rate per unit for a given practice within an area and would be made only after an inspection revealed that the practice had been carried out in a satisfactory manner. Because extreme care should be exercised in making a practical farm plan, there would be no ceiling on the total amount of payment that could be earned on an individual farm if practices were carried out in accordance with the plan approved in advance. The rate of payment would include the cost of materials involved and an allowance for labor required to carry out the practice.

In the interest of resource conservation, payments might be made for carrying out conservation practices on farms the operators of which were not receiving conversion payments either because they were not eligible or because they did not desire to comply.

The total conservation payments made on an individual farm not participating in the conversion program would be subject to ceilings or limits. They also would be based upon a farm plan, more simple than the conversion plan, but designed to fit the needs of the individual farm. That is, an attempt would be made to select and pay for the practices most needed on the individual farm and not on practices the farmer is already carrying out.

4. Steps also would be taken to encourage and stimulate private industrial enterprises to provide more nonagricultural employment opportunities in the South.

5. Private enterprise including cooperatives would be aided in providing adequate marketing facilities for the new and expanding enterprises in the South.

A program such as the conversion program likely would involve heavier Government expenses during the first decade of operation than other lines of action discussed in this report. But after the first decade the cost to the Government would be less.

The consequence or impact of such a program would be tremendous. Millions of southern farmers would have to change their way of doing things. Many would have to enlarge their farm businesses. Many others would have to seek nonfarm employment. Of course,

many of these changes and displacement of people will occur regardless of whether a program such as the conversion program is in operation. But if its operation was successful, total farm income would be greater over the long run, and per capita farm incomes would be considerably increased. It would come closer to solving the two basic problems of the South than other alternative lines of action because it would stimulate full use of resources and make more resources available per worker. It also gives promise of enabling United States cotton to stand on its own economic feet, and to compete with cotton from other countries and with substitutes for cotton.

Recommended Action Programs

In considering the welfare of southern people, certain broad objectives need to be kept in mind as goals toward which efforts should be directed. The chief objectives of rural people are to attain incomes which will provide levels of living comparable to those in other occupations, to maintain freedom of opportunity, and to gain security which will make for stability of family and community life. These can be realized by:

1. Raising the general level of education in the region.
2. Increasing the net product per man on farms.
3. Improving opportunities for living in rural areas.
4. Expanding nonfarm employment.
5. Enlarging the market for farm products.

These objectives can be achieved through programs designed for action beginning with the individual farm and extending to the community, the state, the region, the nation, and finally, the international level. Certain activities and programs will be peculiar to different levels, while others will be operating on all.

There is no one "cure all" for all the ills of the South. The task is one of evaluating the various alternatives, formulating policies, and facilitating programs to move toward the desired objectives. All of these in the interest of society as a whole and with the least possible injury to any segment of society.

1. Raising the General Level of Education

Chances for substantial and permanent improvement in the position of the South in general, and of southern farmers in particular, will be greatly facilitated with an increase in the general

educational levels of the people. All of the problems to which attention has been called and all of the recommendations which will be made imply the need for sound information and a higher level of education than the great mass of people in the South have realized. This can be brought about partially by additional research on problems of rural people.

With these things in mind and as prerequisite to a full realization of other objectives, the following are recommended:

1. The strengthening of a system of adult and youth education so that farm people may be better acquainted with local, state and national problems, and better prepared to meet them.
2. The further extension of state aid to local schools so as to equalize educational opportunities within the states.
3. The provision of Federal aid to education, as a means for equalizing opportunities between the states.

2. Increasing the Net Output Per Man on Farms

Before there can be any great improvement in the general status of farm people in the South a higher volume of production per worker is necessary. There are many ways in which this can be done, some of which involve only the determination and effort of individual farmers. Others, however, are dependent wholly or in part upon state and national and international programs and policies. In general the net product per man on farms can be increased (1) by more efficiently utilizing the resources available on farms, (2) by increasing the resources per man, and (3) by providing for off-farm work during certain seasons, or full-time employment in the case of certain members of the farm household. For the purposes of effecting an increase in the net product per man on farms, the following are recommended:

A. Action by individual farmers:

1. Greater attention to the recommendations of state experiment stations and extension services with regard to improving varieties of crops and breeds of livestock and farming practices.
2. Further improvement in farm organization and in the combination of enterprises.
3. A careful study of opportunities for enlarging the farm business by mechanization and the addition of more live-

stock as well as the acquisition of adjacent farms where needed to establish an economic unit.

B. Action by local, state and national governments:

1. Removal of programs which tend to prevent the shifting of the production of agricultural commodities to farms and areas best adapted to their production.
2. Development of a program which will facilitate, through payments and loans if necessary, desirable adjustments.
3. Continuance of soil conservation programs with greater emphasis upon their contribution to the maintenance of a permanent agriculture in a balanced economy.
4. Opportunity to sell cotton at levels competitive with substitute products and with foreign grown cotton. If this were done suddenly, cushion payments on a descending scale should be provided while farmers are lowering the cost of producing cotton.
5. Protection against weather hazards by increasing the extent of crop insurance.
6. Continuance of the application of the "Ever-Normal Granary" concept to stabilize supplies of products in cases where such a program is applicable.
7. Protection against low incomes, to farmers as a group, by providing parity income payments when needed for maintaining needed purchasing power and comparable opportunity for living.
8. Expansion of types of credit for increasing the resources available to farmers and for making desirable adjustments in their farming system.
9. Assistance to farm people in obtaining and training for nonfarm work.
10. More effective education and guidance at the county and community level as a means of assisting farmers in re-organizing their farm businesses and adopting improved practices.
11. Initiation and promotion of programs and policies which will give particular encouragement to the family-size, owner-operated farm and to the improvement of landlord-tenant relationships.

3. Improving Opportunities for Living in Rural Areas

While any increase in the per capita income of farm people in the South will be reflected in improvements in their levels of living and in their economic and social environment, there are many types of facilities and services which should be made available to them both as a matter of simple justice and of sound public policy. Some of the steps necessary to accomplish these objectives are outlined in the following recommendations:

1. Extend the benefits of the National Social Security program to farm people, particularly the old age assistance and survivors' insurance.

2. Make available the services and conveniences of telephones, electric power and roads to rural people as rapidly as is consistent with sound economic policy and public welfare.

3. Establish minimum standards of rural housing and provide for either government subsidized credit or guaranteed private loans.

4. Extend cooperative business methods so as to reach as many farm people as is feasible and economical.

5. Give increased public attention to the recreational needs of rural people so that public parks, playgrounds, etc., will be provided where the demand is sufficient to justify them.

6. See that public recognition is given to setting up minimum standards of health and nutrition and that Federal support is made available to insure their attainment.

4. Expanding Nonfarm Employment

With a view to expanding opportunities for nonagricultural employment in the South, and having in mind benefits which will flow to all segments of the population in all sections of the country, it is recommended that:

1. Further steps be taken as soon as possible to remove differential freight rates between different regions.

2. Current widespread practices of levying discriminatory taxes and of imposing other unwarranted restrictions upon the manufacture, sale, and use of certain products be discontinued.

3. Every effort and encouragement, consistent with sound public policy, be given to bring about a further decentralization of industry through producing information on local needs and opportunities, training local leaders in the "know how" of specific

industries, and encouraging the investment of local capital in new enterprises, particularly those which make use of the raw materials of the region.

4. Vocational and apprentice training be provided in nonfarm occupations for the purpose of equipping farm boys and girls with the skills necessary for productive nonfarm employment.

5. An efficient public placement service be provided to facilitate prompt and effective contact between workers and jobs.

6. Public action be directed toward opening doors of opportunity to all who are able and willing to work and toward those things which are essential to the free movement of people into the occupation of their choice.

7. Tax policies favorable to the establishment and development of small industrial enterprises.

5. Enlarging the Market for Farm Products

For the purpose of increasing market outlets for agricultural products in particular and of promoting a larger volume of trade in general, we recommend:

1. The modification of numerous laws and regulations which unnecessarily impede the movement of commodities in interstate commerce.

2. The immediate integration and coordination of grades and standards as between the different states.

3. The expansion of local outlets for farm products through the development of local processing facilities, the improvement of market organization and methods, and the intensification of advertising to call attention to the merits of local products.

4. The reopening and expansion of foreign markets by reduction of tariff duties and the removal of import quotas and other impediments to a freer flow of goods between the nations.

5. The abandonment of price policies which prevent the sale of American products in foreign markets.

6. The intensification of efforts designed to increase the consumption of farm products, particularly cotton, through new uses and improved methods.

7. The support of purchasing power or other means necessary to enable low income farm and nonfarm families to have at least a minimum adequate level of living.

OUTLINE OF A PRICE POLICY FOR AMERICAN AGRICULTURE FOR THE POSTWAR PERIOD

*Report of the Committee on Parity Concepts**

A CITATION of the principles upon which a sound public policy to protect the income of the United States farm population can be built, depends to a great extent upon the realization that the modern economy functions as an organic whole. No part weakens without affecting the others. Agriculture is one of the vital segments of this economy.

A century ago, American agriculture was still the center of gravity of our national economy. In the course of what has been called the "industrial revolution" with the tremendous growth of urban and metropolitan areas in the industrial zones, agriculture, too, has made great progress in improving the efficiency and output of its manpower. Agriculture today represents a substantially smaller proportion of the national income and of the number of gainfully employed people than in earlier periods. This gradual shift was caused in part by the transfer to other sectors of the economy of more and more activities originally incorporated in the productive activity of the farm. Partially it was caused by the tremendous expansion of new industries and occupations. The manufacture of tools and all durable goods used on the farm, the processing of food raw materials into finished consumer foods, as well as the transportation of farm needs from city to farm, and of farmers' produce from farm to city, are the chief activities of this nature which have been taken over by industry and commerce.

Because the center of gravity within the national economy thus shifted away from the farm and the farm population toward the city and urban productive groups, the nation's general prosperity has gradually come to depend upon the multiple set of conditions generating a high rate of productive industrial employment and

* The preliminary draft of this report was written largely by Dr. Karl Brandt after several meetings with members of the Committee.

However, because of his absence from the country in recent weeks he has not seen this final draft in which certain changes, especially in the last section, were made by the other members of the Committee. Members of the Committee include:

Karl Brandt, Chairman, Food Research Institute, Stanford, Calif.

H. R. Wellman, Vice Chairman, Giannini Foundation, Berkeley, Calif.

R. J. Eggert, American Meat Institute, Chicago, Ill.

H. J. Henney, Colorado State College, Fort Collins, Colo. (Resigned July, 1945)

Fred Waugh, Office of War Mobilization and Reconversion, Washington, D. C.

Karl Wright, Michigan State College, East Lansing, Mich.

high national output by industries. The urban population's high aggregate real income, in turn, results in an increased flow of goods and services to and from the farm.

America's roughly six million farms, accounting for 18 percent of the nation's gainfully employed people, are a vital part of the arterial system of circulation through which flow the goods and services of the national economy. The nation depends on properly functioning farms as important sources of primary materials, food, and fibers. Yet the farms cannot be treated as an independent object of policies, nor can they be made prosperous in emancipation from the remainder of the economy. Nor can conditions creating mass unemployment and decreased output in cities be cured by maintaining or restoring economic well-being to the farms alone.

Certain popular theories argue that prosperity for all can be secured simply by putting, one way or another, enough money into the farmers' pockets.¹ It is further claimed that such artificial farm solvency would be reflected many times throughout the urban economy. Speculative theories of this sort are dangerous fallacies. They are built upon untenable assertions without a thread of evidence to support them.

National Welfare and Rural Welfare

The prerequisite for the well-being of the farm population is closely linked with the well-being of all the other people living within our national boundaries. This well-being requires a healthy flow of "real" income consisting of goods and services. The distribution of such real income must grant all social groups at least a minimum of subsistence permitting the maintenance of life and health. The necessary inequities in income must not preclude the potential pursuit of happiness in times of better income by impaired health or stunted growth resulting from shortage or deficient consumption of food.

While the question of agricultural income technically belongs in the realm of economics and deals with goods, services, and money, it is impossible to ignore the ultimate social function and purpose of all man's economic activity. Goods and services are means toward the ultimate end of supplying the physical requirements

¹ Cf. C. H. Wilken, *The Future of American Agriculture and the Need of Irrigation* (Address delivered before the convention of the Nebraska Reclamation Association, 8 pp., mimeographed, Jan. 19, 1945); E. H. Taylor, "The Key to Prosperity," *Country Gentleman* (December 1944).

for a decent living for the entire community, as well as of meeting the moral and cultural obligations involved in it. Contemporary history, particularly in the recent decades that have brought western civilization to the brink of disaster, has proved beyond doubt that a "good society" cannot stand mass unemployment for prolonged periods without suffering corrosion of its ethical and moral foundations.

Through their government, the sovereign self-governing people of a democracy are obliged not to let conditions arise in which through no fault of their own masses of their fellow men, be they individuals or whole groups, lack the means of livelihood and the protection of opportunities for a full life and physical and mental health for themselves and their children.

The House Special Committee on Postwar Economic Policy and Planning, under the chairmanship of William H. Colmer, well stated in its report:

*"For the attainment of postwar prosperity we must look primarily to the efforts of private enterprise, its management and its labor force. The role of the government is essentially to provide the setting in which these efforts have the best prospects of success. At the same time it is the obligation of the government to take direct public measures for the protection of its citizens against the economic hazards which are unavoidable in a progressing economy that preserves freedom of private enterprise and individual opportunity . . ."*²

Constitutional government in the western countries stands or falls by the principle of equality of opportunity. Political freedom and individual liberty are secured by the economic device of private property in means of production and goods, freedom of movement, and choice of employment and profession. The efficient utilization of human and material resources is organized in a system governed by competition. It grants benefits in the form of gains, and penalties in the form of losses. It is enforced by the rules of bankruptcy for the losers. But the ethics of this system require that the majority of the toiling people who are willing and able to work have an opportunity to do so. The process by which the unfit are eliminated as the owner-manager-operators of productive resources must not degenerate into the wholesale loss of property and livelihood by large numbers of people regardless of their individual performance and accomplishment, such as took place during the last worldwide

² H. Rept. 1855, 78th Cong., 2d sess. (Fourth Report of the House Special Committee on Postwar Economic Policy and Planning, "General Report on Economic Problems of the Reconversion Period"), p. 71, italics ours.

economic depression. The extreme social insecurity created by the depression had in its wake the sweep of political tyranny, and the military and political catastrophe of World War II.

It is internationally recognized today by the people of democratic countries that the legitimate and even primary task of statecraft revolves around the protection of the people—that is, individuals, families, and larger constituent groups which make up society as a whole, from the repetition of such calamities. *In every nation, therefore, the greatest issue of statecraft of our day is to determine how a necessary minimum of social security and governmental controls can be combined with an optimum of freedom and economic progress.* This issue underlies the whole worldwide struggle for the best form of contemporary government, and must be vigilantly kept in mind lest liberty be lost.

Public Aid to Agriculture: The Rise of Parity

During the inter-war period, the people of the United States gradually came to acknowledge the principle that in exchange for his hard toil the farmer ought to earn a real income sufficient to provide the material base for a living which would at least not deprive the generation growing up on the farm of equality of opportunity. In early decades the public in the newly rising cities took the narrow view of its best interest by trying to obtain food at the lowest possible price, irrespective of the conditions under which that food was produced or what conditions on the farms such prices would create. Particularly since the depression years of the early thirties, most Americans living in urban regions have changed their minds.

Today there is a solid core of agreement throughout the nation that it is unjust and unfair to the farmer if he, who toils at least as hard as do the heavy workers in industries, is left without a minimum of real income and means of livelihood because of market events beyond his control or foreknowledge. This common conviction has found expression in the legislation enacted first under the Hoover administration and carried through with increased momentum in the three Roosevelt administrations. This policy, as it now stands, extends about three years into the future. It tries to establish "equality for the farmer" by giving government support to farm prices under the so-called parity principle. Farm legislation has gone beyond assuring a minimum of real income.

Particularly in view of the increasing legal protection of more extensive rights of organized labor, legislators have tried to establish a balance between the improved share of the industrial worker and the share of the farmer in the nation's output of goods and services.

No matter how serious its flaws and inconsistencies, the concept of income parity for agriculture is imbedded in a healthy though not fully rational public thinking. The parity idea is in part an outgrowth of the conviction of the American people that democracy becomes a farce if it proves to be no more than Marxian doctrine proclaims it to be—a relentless slugging match between controversial interest groups which have nothing in common except their selfish greed.

Fortunately most of our substantial citizens now agree that in spite of the existence of controversy of material interests, a superior unity exists—the intelligently interpreted moral, spiritual, and material interest of all the people. They believe the task and function of any enlightened government must be to find workable policies which reconcile the divergencies in favor of the common weal without recourse to the short-cut methods of tyranny.

Basic Characteristics of the Farming Enterprise

It is common knowledge that the farmer's crops are grown in the open field subject to the whim of sunshine, storm, rain, hail, frost, or drought. These crops have to be nursed through attacks by insects and pests. Thus the farmer has no direct or accurate control over the yield and the output of each crop for which he plans. He may expand his acreage and yet harvest far less than in the preceding year. He may have a smaller acreage and much larger crops.

It takes from 1 to 2 years to realize yield from one crop; up to four years to raise a dairy cow to the point where she gives her optimum milk supply; and from four to eight years or more for fruit orchards to mature to full bearing age. The farmer cannot accelerate nature's growth cycle of plants and animals, nor can he make any alterations in crops once the seed is in the ground. Once the investment in crops and animals is made, production yields an urgent market supply which can hardly be stopped without heavy loss to the grower. This situation is at the same time responsible for the remarkable steadiness of agricultural output compared with that of industries.

The farmer is entrusted with the use of land, one of the nation's most prized possessions. This heritage is defended by the nation's armed forces with supreme sacrifices in life. It is the chief resource for the production of food and fibers. The livelihood of a substantial part of the people depends upon it. The farmer is implicitly charged with the responsibility of making such use of this great asset as to sustain its yield and usefulness in the interest of the general public and future generations.

American agriculture and its farm land are for many reasons operated and managed in the form of family units. At the same time, farming in properly sized and well equipped family units happens to be the most efficient method of using manpower in the production of food and fibers known to the world. American farming has for a long while held the world lead in productivity per man hour. However, despite its beneficial qualities, this highly efficient family farm unit has the inherent weakness of being unable to defend itself against the advantages gained by other economic groups through political organization and pressure or by virtue of monopoly.

Other economic groups frequently violate the principle of competition. Competition is anchored in our Constitution as the invigorating and propelling force of our economic system, and the rule of the game. Monopoly is a conspiracy against competition, and incompatible with the general welfare.

Six million farms, scattered over two billion acres between the Atlantic and the Pacific, can never as easily play the game of monopoly as certain other groups. Even if they could, the results would be detrimental to the national welfare similar to the restrictions against work-efficiency imposed by other ill-advised economic groups.

In the family farm unit, characteristic of and predominating in the occupation of farming, home and productive workshop are combined. Therefore the fortune or misfortune of the business end of the farm cannot be separated from that of the farmer immediately concerned.

The farm population, by and large, has maintained a much higher birthrate than has the urban population. The rural areas, therefore, feed into the urban economy a steady stream of people of working age who have been reared on farms. Without this important biological and economic support, the cities of the United States would either stagnate or die out in two or three generations.

Even in some of the most highly developed farming states, the farm population reaches the point where it does not reproduce itself. In a competitive world of great powers, where the differential of biological pressures plays a decisive role, the urban population cannot fail to overlook entirely the important and wholesome contribution made by the American farming community to the very existence of the country.

For these and many other reasons the parity principle must be taken as the political *communis opinio* of the American people today and in the near future. As stated earlier, this Committee not only respects this view as such, but considers the underlying set of ideas and the major social and political aims to be essentially sound.

Trend of Parity Legislation

The parity principle as incorporated in the now effective legislation enacted by the Congress of the United States³ attempts to carry out the mandate of the people. The public does not wish to see the American farm consistently or over long periods of depression submerged in an economic ditch. Nor does it want large parts of the American farm or non-farm population, through no fault of its own, condemned by ups and downs of the violent squeeze of the business cycle or general economic conditions to exist on an income so low it means living in a rural or urban slum.

This legislation has chosen a particular avenue of executing the policy by interfering in the market on behalf of the farmer so that the prices obtained by him, and in general the prices paid by the consumer, have been kept higher than they would have been subject to the influence of supply and demand alone, and without much government interference. The government has done this by applying a formula which obliged the price-supporting agencies to keep prices at a level not lower than a certain percent of their level during a period before World War I, or another later period at which it was assumed that farm income from such commodities was sufficient to permit the average farmer to cover costs and realize some profit.

³ "Legislation on parity prices and price supports is summarized in a talk by Robert H. Shields, Solicitor of the U. S. Department of Agriculture, in Denver, Colorado, on August 16, 1944. The title of the talk is, "Federal Statutory Provisions Relating to Price Support for Agricultural Commodities." It is available in mimeographed form. USDA 2947-44.

In selecting the methods of keeping prices at these promised levels, the government has given priority to purchases in the open market, storage in public granaries, and non-recourse loans to farmers for commodities stored on the farm. Other supplementary methods have included price-fixing by decree through marketing agreements, buying and selling at a loss by paper transactions, and payments of outright subsidies at the point of distribution.

Prior to World War II, as a result of this policy, the public support of prices kept production of many key commodities continually far above the point at which the market would have absorbed the bulk of supply. Excess carryovers were accumulated. In order to prevent this situation from getting out of hand, the government negotiated quota arrangements with farmers, trying to reduce output through curtailment of acreage. Since this alone did not have sufficient effect with most crops, additional quota restrictions were imposed on the marketing of certain depressed commodities.

This system of publicly controlled scarcity prevailed until 1940-41 when our economic support of Great Britain and the prospect of America's entry into the war created an ever-widening demand for farm products. Then the Secretary of Agriculture threw the throttle wide open and used the powers bestowed upon him under the parity formula in order to expand farm production as rapidly as possible and to the greatest volume that farmers could turn out under the aggravating circumstances.

During this era, the government used its price support machinery as it had before the war (except for the discontinuation of all restrictive features) but with a much more liberal interpretation than in earlier years. The guaranteed level was boosted to a higher and higher percentage of the historical base period. At the same time the inevitable war demand for farm products forced many prices far beyond the parity support level. The government's desire to put brakes on the wheels of inflation led to the establishment of price ceilings for various farm products.

Criticisms of America's Farm-Price Policy

From 1933 to 1940 the American farm community became increasingly critical of the farm-price policy. As soon as industrial recovery began, many farmers began to resent being denied the best use of their resources. At the same time, the price policy

prohibited the development of a maximum demand for their produce at home and abroad. Yet the farmers were not willing to go back to a situation where the government kept its hands completely off the market as well as other factors determining their income.

During the war years the situation in the market changed completely. Farmers had no cause to complain about the price policy, because the war created an ideal situation; a situation which in an economic sense is paradoxical: while production was boosted sky-high, prices remained at the top levels, many of them tending to rise even further. Commodities for which price ceilings had been established soon began to seep into the black markets. This unusual situation developed because in a war economy financial considerations must be almost disregarded. Physical production and ample supply are the chief considerations.

Farmers have enjoyed an income which, in exchange for their magnificent performance in the national interest, has given them a large share in the war boom. Net farm income increased from 5.4 billion dollars in 1935-39 to 13.6 billion dollars in 1944. In addition, they have received the government's solid promise that prices will be maintained for at least two years beyond the official decree terminating the war. Thus from the angle of income alone, the farmers have no legitimate reason to criticize governmental parity policy. They know, of course, that a part of their income depends merely on political considerations in Congress. However, this is compensated by the fact that the absence of any restriction on farm production has caused any tangible form of control or regimentation by support-lending government agencies to disappear from public view.

However, the American farmer, the elected leaders of his organizations, and the many civil servants of the United States Department of Agriculture, and others, are not deceived by the continuation of relative prosperity for agriculture that is carried along by the natural postwar buoyancy of the international food market. They sense keenly the inevitable revival of vigorous competition between farmers of the world's great food- and fiber-exporting countries, and the probable recurrence of burdensome surpluses in markets for commodities which do not enter foreign trade. There seems to be agreement among the leaders of public opinion that a return to regimented scarcity would be disastrous, equivalent to

the deliberate frustration of the creative capacity of the economy of the United States, and would impair human welfare here and in other countries.

Instinctively the people reject the idea of a stagnant economy, and rationally they repudiate as faulty reasoning theories about its oversaturation.⁴ Politically, they seem at long last to have realized that freedom is invariably lost under controlled economic scarcity and stagnation.

After rejecting controlled scarcity, many leaders of the farming community have become suspicious of the continued usefulness and the political propriety of the parity-price formula. While this formula has the merit of being a convenient legislative and administrative device, it has demonstrated crucial economic weaknesses. At the root of this profound distrust of the perpetual usefulness of the present parity-price policy and the Steagall Amendment, lies the conviction that this policy will accelerate the recurrence of excessive surpluses, and resulting from those, ruinous prices or regimented scarcity, or both.

Some quotations from public utterances may serve as evidence in support of this view.

In a report to the President of the United States, the Senate, and the House of Representatives, James F. Byrnes, when Director of War Mobilization and Reconversion, said:

"Situations may arise . . . in which it would ultimately cost the government less, and be to the long-time interest of producers, to permit the prices to decline below the authorized support price level, and make up the difference with direct government payments."⁵

Fred M. Vinson, in a similar report at a later date when he was Director of War Mobilization and Reconversion, repeated the statement of Mr. Byrnes, and urged that this idea be given most thorough study. He pointed out that:

" . . . if the government makes this payment direct, it has the advantage of permitting the consumer to get more for his money, thus encouraging increased consumption. It allows farm prices to reach their natural level and thus puts the farmer in a better position to compete in the foreign market."⁶

⁴ Cf. George Terbough, *The Bogey of Economic Maturity* (Machinery and Allied Products Institute, Chicago, Ill., 1945).

⁵ *War Production and VE-Day* (Second Report to the President, Senate, and House of Representatives by the Director of War Mobilization and Reconversion, April 1, 1945), p. 40.

⁶ *The Road to Tokyo and Beyond* (Third Report . . . by the Director of War Mobilization and Reconversion, July 1, 1945), p. 65.

Albert S. Goss, Master of the National Grange, said to that body on November 14, 1945:⁷

"... the formula does not recognize the constantly changing demand between commodities, and should be modernized."

"The results are so erratic that the Congress has authorized the Secretary of Agriculture to establish 'comparable prices' when the formula produces indefensible results. Thus we abandon the principle of parity and rely upon the judgment of one man. On some items the Congress has even changed the base period. Obviously every commodity so adjusted, throws the rest of the formula out of balance."

"Because of the inequities which have crept into the formula through obsolescence, some items are now far too high while others are too low."

Secretary of Agriculture Clinton P. Anderson, stated in his address "Equality for Agriculture":

"... we definitely know that if a historical base is used, changing conditions sooner or later will make any fixed set of prices unacceptable to farmers and non-farmers alike. And this happens, no matter how reasonable the relationship between farm and non-farm prices may have been in the base period. The fact is that production factors in agriculture and industry shift so much and so rapidly that no price relationship is permanently stable. People's wants, their methods of living, their methods of working—and the number of people themselves—continually change and make new patterns."⁸

"As a matter of objective history, parity price bases have been changed and amended so much in the past 15 years that they are now a patchwork of special provisions. Even a Philadelphia lawyer could not explain just why the parity price of a particular commodity is what it is."⁹

"We know from past experience that parity prices don't necessarily produce parity income."¹⁰

"During World War II parity income... could have been produced by farm prices below parity."¹¹

Limitations and Weaknesses of the Parity Formula

In the course of its deliberations, this Committee has carefully weighed the performance and the utility of the present parity-

⁷ A. S. Goss, in an address delivered to the 79th annual session of the National Grange, Kansas City, Mo., November 14, 1945.

⁸ C. P. Anderson, *Equality for Agriculture* (Address before the National Association of Commissioners, Secretaries, and Directors of Agriculture, Memphis, Tenn., U. S. Dept. Agr., Office of the Secretary Press Release 2082-45, mimeographed, November 12, 1945), p. 5.

⁹ *Ibid.*, p. 6.

¹⁰ *Ibid.*, p. 11.

¹¹ *Ibid.*

price formula by the standards of the ends which it is supposed to serve. It is not reasonable to attribute any sacredness to this or any price formula. The only valid measuring rod is the degree to which it attains its goal in operation. While a detailed analysis of the performance of the parity formula may be found in Parts III and IV of the Appendix, the main conclusions are summarized below.

1. By adopting a historical base period as the yardstick for the support price of specific commodities, the parity-price formula freezes the functional and otherwise self-adjusting price mechanism. The historical base leads to rigid maintenance of accidental price relations that existed under an entirely different situation. Prices, and even more so price relations, are the most powerful instrument for directing and allocating manpower, brainpower, and man-made resources (such as capital and research) as well as natural resources. Even the economic solutions applied by the Soviet Union and Nazi Germany have not refuted this economic axiom.

2. In allocating productive resources and people, the only alternative to relative prices that we have available is the direct order of the government. Political command cannot fail to result eventually in decrees as to who can farm, and where, and how, and who must leave the farm.

3. The parity formula disregards the progress made in farm technology which in recent years substantially reduced the production costs of some commodities, but has left at former levels the production costs of others. Therefore, some parity prices are too high, others too low, for a balanced agricultural production sensitive to the relative demand in the market for specific products, and to shifts in that demand.

4. The parity formula does not make allowance for the improvement in the quality of goods and services which the farmer buys. Many of the goods used in production have not changed in price or at least have not risen in price, but the quality and performance he obtains gives him far more for his money. This is notably so for motor cars, tractors, and other power equipment.

5. Production controls in the form of acreage quotas are ineffective for most of the crops. During the period before the war the system of controlling the crop through acreage restrictions broke down for nearly all crops. The farmer shifted the restricted crops to more productive land, used more fertilizer, better seed, and better methods of cultivation. The high support price gave

him the incentive to produce on fewer acres as much as his too easily underrated ingenuity and resourcefulness would allow.

6. Thus the parity formula has actually been instrumental in subsidizing excess production simply to fill public granaries. While the nation has reason to desire a sufficient cushion between years of poor and bumper crops, to avoid running out of the physical volume of supplies, the rigid parity-price formula abuses the granary system merely for the sake of fixing prices, irrespective of what happens in the market.

7. Unchanged support prices in the market in view of overloaded granaries violate the rule of good common sense. The domestic consumer and the foreign importer take their cue for heavier or lesser buying just as much from the price as the farmer does his for production. If prices continue high while granaries overflow, the consumer continues to economize and consumes as little as his budget permits and only what he absolutely needs. The industrial manufacturer, processor, or converter does the same. If substitutes of similar quality but lower in price are available, he will use those. Manufacturers of substitutes will be greatly encouraged by the maintenance of the fixed price of the product against which they compete. Thus parity prices actually undermine the market position of some of the American farmers' staple crops—for example, cotton.

The worst feature of all is that government price supports which keep prices above the free market price levels tend to restrict consumption.

8. Fixed parity prices do similar harm to American agriculture in the foreign market by pricing its export products out of the range of the importing countries. As a result, America's farmers must reduce their output and farmers in other countries will tend to fill the gap. Such renunciation of otherwise possible exports is a net loss of income to the farmer, to our nation, and to other nations.

At the outset of this report, the Committee stated its belief in creating through public policy a certain minimum degree of social security for the farmer. But we are convinced that the parity price formula and related methods of price support are an approach which will become the more untenable as the overlapping war boom and the relief period subside. We believe, moreover, that failure to revise and reorient the parity policy without much further delay

will inflict immeasurable damage upon American agriculture and this nation's whole economy.

The Prerequisites of a Sound Farm-Income Policy

A sound farm-income policy must see to it that a maximum volume of food and fibers is absorbed by domestic and foreign consumption through the ordinary trade channels of distribution. Policies which curtail consumption are to be condemned. A sound farm-income policy must protect the adjustability of our economy and the open frontier of technological progress. Both are among our greatest and most indispensable assets. America's farmers must not trade their birthright of better farming tomorrow for government price supports. *Economic statesmen must realize, however, that gradualness of change, adjustment, and progress are the essence of fairness to those who hold our agricultural resources in trust.*

A sound farm-income policy must keep prices flexible so that they can respond to changing crop yields and thereby balance the income from crops. Prices must be flexible so that they can respond to changing costs of production. Farm-commodity prices must be kept flexible also in order to express through their relative level and quality the preference of the market for some, and the slackening demand for others.

Such principles by no means imply that the general price level of any and all agricultural commodities must continually fall. If we rule out the case of severe industrial depression, the lowering of specific prices would proceed only insofar as either the costs of production were reduced or the demand fell continually because there was a shift to other products.

The United States government should therefore pursue policies that will protect farmers against extreme losses caused by sudden and radical changes in the market beyond farmers' foreknowledge or ability of adjustment. These policies should also avoid any direct or indirect encouragement of extreme price rises, since these are followed invariably by violent price declines. Policies of this sort do not require interference with the delicate automatism of market prices so vital to a free, competitive, and expanding economy. Furthermore, they provide ample leeway for accomplishing their goals with the use of less harmful and objectionable methods.

The first consideration is that the government steer a course in

general economic affairs (particularly in taxation, monetary policies, labor and wage policies, transportation, public procurement, foreign trade, international finance, etc.) which fosters conditions favorable to the gradual, healthy growth of the economy. Such a course will, if successful, create enough leeway and margin of action in many non-agricultural fields of employment to absorb the least productive and hence poorest farmers. This will tend to shift them by their own volition into a position where they can make a better contribution to the welfare of the nation.

The shift of the marginal farmers to other fields is essential, if the national farm policy's task is to be manageable at all, and if it is to improve the situation for the rest of the farmers, the commercial as well as the predominantly self-supporting ones, by economic methods. But the chief support and enforcement of a farm-income policy must still come from the success with which economic policy is applied in fields outside of agriculture.

Agriculture loses disproportionately more in potential real income through impediments of competition in economic fields other than agriculture, such as industrial monopoly wages and monopoly prices for industrial goods and commercial services, than direct government aid to farmers can ever compensate. Fixed margins in wholesaling and retailing, and fixed transportation charges are devices which load the dice against the farmer whenever his prices drop. If the powerful farm organizations shall promote the real welfare of the farm population, they should throw the full weight of their political influence behind a legislative policy through which the government restores greater competition in those parts of industry, and labor where it does not now exist, in order to keep the costs of farming low, rather than to appease agriculture by some more or less monopolistic protective devices for farm products.

Proposed Price and Income Policies for Agriculture

The Committee recommends that the government fulfill the general obligation assumed under the Steagall Amendment. This strong financial support grants the farmers a maximum of leeway for converting their farm operations to the changed conditions of a peacetime market. The government should not fail to urge the farmers to start measures of conversion immediately, and should assist them in this work by a strong and well-planned educational pro-

gram advising them about shifts in production that will be most profitable in the long run.

The Committee believes strongly that the present type of price-support commitments are at best a temporary expedient. If the government should attempt to support prices of major agricultural products permanently at the 1910-14 parities, or higher, we would face either enormous surpluses or some extreme form of regimentation of farmers.

The Committee therefore urges that the Congress without delay provide new legislation that will provide the framework for a long-time price and income program to become effective at the end of the Steagall period.

Farmers should know as soon as possible what this long-time program is to be, so that they may prepare suitable adjustments in crops and livestock production.

The following principles are suggested as a basis for the long-time program:

1. The government must be prepared to take vigorous action to prevent a rapid deterioration of the level of living on farms which would result from a sudden postwar collapse of real incomes on farms. Research and educational policies alone will not be sufficient to prevent such a collapse in incomes.

2. The main support to agricultural income must result from general economic policies which create the circumstances under which a high rate of production and employment gives the consumers the purchasing power to buy an optimum of food and fibers.

3. In order to maintain a high and stable rate of food and fiber consumption, the government should avoid restrictions of agricultural production or of sales of farm produce. A comprehensive outlook program should aid materially in securing a better production balance within agriculture, but in some cases payments to farmers may be necessary in order to cushion the shock of making needed production adjustments and of bringing them about more quickly than would otherwise occur.

4. In order to give the farmer the orientation and incentive to make shifts in the proper direction, and to assure him against drastic declines in the return from specific commodities, the government should announce in advance a support schedule of prices

for each agricultural commodity.¹² The support schedule for any year should be fixed within a range of 70-90 percent of the average price of the commodity for the previous 3-5 years, adjusted for changes in the Index of Prices Paid by Farmers for articles used in Living and Production. The lower part of the range is intended to apply to commodities which are in surplus, the upper part to commodities which are in short supply relative to demand.

5. The Congress should authorize a flexible program to carry out the support commitments. Main reliance should be placed on direct payments to farmers of *the difference between the announced support schedule and the market price*.¹³ This would permit a maximum movement of each commodity into consumption and into export markets. Consideration should be given to making the payments conditioned upon following improved practices for both crops and livestock.

6. In addition to direct payments certain supplementary devices to support farm prices might also be employed. Food distribution programs such as a school lunch program and a food stamp plan or a food allotment plan should be developed and put into operation on a limited scale immediately. Such programs should be expanded rapidly as employment and consumer income decline. The primary emphasis of these programs should be on improving diets of undernourished groups. However, they will help maintain markets for many important products.

Government agencies also should be authorized to purchase surpluses when this is found to be the most efficient way of carrying out price support commitments. In such cases, however, great care should be taken to avoid spoilage or the accumulation of excessive stocks. This can be done only by the development of concrete programs for disposing of Government purchases in an orderly manner.

¹² Mr. Wellman would restrict government price supports for agricultural products generally to periods of severe business depressions. In such periods he would favor large expansion of subsidized food consumption programs and the institution of direct supplemental income payments to farmers. In periods of high-level employment in industry and trade he would center attention upon improving the operations of the competitive market.

¹³ Mr. Waugh and Mr. Wellman would give precedence to programs to improve the diets of undernourished groups. They believe that in many cases direct payments would be a more expensive and less effective way of supporting prices than government purchases or loans. They agree, however, that direct payments should be authorized whenever necessary to prevent waste of perishables, or the accumulation of burdensome stocks.

Storage programs may well be used, but should be limited to true "ever-normal granary" operations.

International commodity agreements should put major emphasis on expansion of world trade, not on restriction of supplies.

Marketing agreements for increasing the efficiency of physical distribution of products, improving the operations of the pricing process, and expanding consumption should be explored.

The Committee recognized possibilities of abuse in these devices as well as in direct payments, and believes that effective measures to prevent such abuses should be developed.

7. Consideration might well be given to transferring the administration of the farm-income support policy to a *Non-Partisan Board* with a long term of office and staggered expirations of tenure. Salaries should be sufficiently attractive to obtain the highest caliber of competence, impartiality, and wisdom. The Board might stand between the Secretary of Agriculture and the President. It should be made as invulnerable as possible, to political pressures and should execute with economy and businesslike efficiency the policy laid down in its framework by the Congress.

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ANNUAL BUSINESS MEETING, AMERICAN FARM ECONOMIC ASSOCIATION

DECEMBER 28, 1945, LaSALLE HOTEL, CHICAGO, ILLINOIS

Report of the President

The past year has been an unusually busy one for the association. The price policy contest, the activity of three special committees, and the arrangements for the annual meeting after the enforced wartime suspension of meetings have all involved considerable work. The details of managing and publicizing a contest of this kind was entirely outside of my previous experience. Mistakes were undoubtedly made but I have striven to handle the various matters to the best of my ability.

The number of entries in the contest met my expectations.

The question may be asked: Was this contest worth while? I do not know. But I think it accomplished four things. (1) It brought our association to the attention of a lot of people and also revived interest in it on the part of many members. (2) It has served as a means of bringing together the ideas of a great many people on this important subject and it has, I believe, brought forcibly to the attention of many key people the fact that existing farm price policies are not fully approved by a considerable number of agricultural economists. The evidence on this point is the critical reaction in a number of quarters. (3) It should stimulate interest in this matter by many of our own group who have not previously given the matter serious attention. (4) It honored certain able men in our group and added to their reputation.

If it did any of these things, I personally will feel repaid for a lot of hard work which I put into it. I wish to thank all who aided and particularly Professor Hobson for the very large amount of work which the contest put upon him personally and upon his office.

I have two suggestions to make to the new officers: (1) Every effort should be made to have all ideas presented in the prize papers subjected to critical analysis and get adequate reviews printed in the JOURNAL. This could not be done until the papers were printed.

(2) If arrangements could be made for analysis of the ideas of all entries, it would be highly desirable. It should be borne in mind that the limit on two prizes to a state except for top prizes caused many superior papers to be ruled out. In one paper to which the judges did not see fit to give a prize was the germ of the plan which Secretary Anderson included in his recent speech before the Agricultural Commissioners at Memphis.

Two questions about the annual meeting should be considered. 1. Should we continue to hold it separately or go back to joint meetings with other associations? My own opinion is that the new officers should be guided by the general wishes of the membership. 2. Should we hold regional rather than national meetings? My own view inclined toward the idea of regional meetings but after checking with several people, I decided against it. I now am personally inclined toward the idea of the national meeting as our members need contacts outside of their own regional areas. This

problem is tied up with our relationships with the Western Farm Economic Association.

A number of ideas have been presented to me by various people during the past year.

Mr. Virgil Hurlburt of Upper Darby, Pennsylvania wrote me suggesting that some means be found for concentrating attention on a few important issues and that some method be worked out to determine what the members feel these to be. Then stimulate a number of contributions on these points. I referred the letter to the Editor but advised Mr. Hurlburt that I would bring it before this group. The idea has merit if there is any practical way of accomplishing it. Dr. Willard W. Cochrane of the Bureau of Agricultural Economics orally advised me that the association should sponsor a contest for the best papers by graduate students each year. The association can I believe wisely afford to spend more money for prizes. I hope the \$100 prize for the best JOURNAL article will be offered again in 1946. The general idea might well be expanded.

At the Executive Committee meeting in February the idea of setting up special committees to study particular problems was considered. Three were organized.

1. *Application of scientific management to farm operations.* This was suggested by a letter from President Milton Eisenhower of Kansas State College to the 1944 president. Eisenhower represented the agricultural section of the Society for the Advancement of Management, and requested cooperation with our Association.

With approval of Executive Committee the following committee was appointed: E. C. Young, chairman, Sherman Johnson, G. W. Forster, D. Curtis Mumford, D. H. Doane, R. M. Carter, C. V. Noble.

The following assignment was made and later agreed to by Dean Young: (1) Maintain contact with the agricultural section of the Society for the Advancement of Management on work in connection with ways of doing farm work more efficiently.

(2) Study and summarize projects in this general field being done by various agricultural experiment stations and other research agencies.

The chairman arranged a program for this annual meeting largely out of projects in the national program of work simplification of which he is chairman. In view of the continuing importance of this field, I suggest that a committee in this field be continued.

2. *Adjustments in southern agriculture with special reference to cotton.* This committee was set up as follows: Joseph Ackerman, Chairman, G. H. Aull, L. P. Gabbard, B. M. Gile, James Hand, Jr., E. L. Langsford, O. C. Stine, F. J. Welch. It has been active and has prepared a report to be presented at this meeting. I recommend that their report be printed in the JOURNAL as a contribution from the committee.

I outlined the scope of this committee as follows:

1. To review and evaluate suggestions that have been made for adjustments.
2. To evaluate from an economic standpoint the alternative opportunities for agricultural production for selected key areas.

3. To review and evaluate market and price adjustments that might be made which would retain for the United States a larger share of the World's cotton market.

4. To appraise necessary changes in organization of the individual farm consequent on shifts away from cotton.

It is my personal opinion that the appointment of this committee was the most constructive thing done by the association during the past year. It brought some of our members from the South into active association work and gave them an opportunity to present accumulated facts and to express conclusions concerning the situation. It also staked out this field as a subject of interest for the association.

I wish to express my personal appreciation to the Farm Foundation for certain financial aid to the work of this committee and to Dr. Ackerman and other members of the committee for the work and excellent spirit of cooperation they have shown.

I think a committee in this general field should be continued.

Parity concepts committee. The following committee was set up: Karl Brandt, Chairman; H. R. Wellman, vice-chairman; R. J. Eggert, H. J. Henney, F. W. Waugh, K. T. Wright. Professor John Black was invited to be a member and declined. Henney became inactive when he went overseas for the War Department, but Brandt did not leave until after a Semi-final Draft of the Report dated November 30, 1945 was prepared. My assignment to the committee was as follows:

1. To study and evaluate the existing parity formula as to its economic effect and usefulness.

2. To study and evaluate the ideas presented in the entries to the American Farm Economic Association's contest.

3. To suggest changes in the present parity formula, or to develop and recommend an alternative policy.

The committee held at least two meetings, one at the time of the meeting of the WFEA in Colorado in June and one in Chicago in October. Vice-president Working sat in with the committee at the Colorado meeting and I attended one day of the Chicago meeting. They have also held numerous conferences with two or more of the members present. The WFEA courteously invited several members of the committee to take part in the program of their annual meeting. The committee is to be commended for its vigor in carrying out its assignment.

At the suggestion of Eggert the committee prepared a questionnaire on attitudes of our members regarding price policy, which was mailed at association expense. The final draft of the questionnaire was cleared with me. To carry out item 2 in its assignment the committee requested Professor Nicholls and Dr. Johnson of the University of Chicago to summarize the papers.

The committee report will be presented at these meetings. I recommend that it be printed in the JOURNAL as a contribution from the Parity Concepts Committee. I make this recommendation even though I do not personally agree with all of their conclusions. I also recommend that a committee on this same subject be continued during the next year in order to

study the matter further and to review various proposals for revision of the parity formula and similar matters.

Professor Hobson has informed me that he does not choose to continue as secretary-treasurer after this year. I make this statement with his consent. The new nominating committee should take steps to sound out the views of the membership on a successor to this important office. The details of the work of the secretary's office and the wise administration of association funds, which will probably amount to upwards of \$50,000 at the end of 1946, make this a very important decision. I do not believe it to be wise to make this choice a matter of competitive election and so the members' opinions on this subject should be sounded in advance.

On more than one occasion I have been approached by persons interested in agriculture as to whether it would be possible to make financial contributions to the association. These would make it possible for us to broaden the scope of our work. I suggest that a committee be set up to review the matter and to bring a recommendation before the next annual meeting.

I wish to take this opportunity to thank all the members of this committee for the assistance and support they have furnished me during the past year.

(Signed) L. J. NORTON
President

Report accepted as read.

Report of the Secretary-Treasurer

For the Fiscal Year Ending November 30, 1945

Membership—At the close of the fiscal year, the membership of the Association totalled 1165. This is an increase of 63 members as compared to 1944. Nearly the whole of this gain consisted of individuals. The following tabulation gives the comparison by groups:

	1945	1944	
Individual Members	835	767	+68
Junior Members	10	17	- 7
U. S. Libraries & Firms	229	227	+ 2
Foreign Libraries	91	91	
	<hr/> 1,165	<hr/> 1,102	<hr/> +63

The above table does not include for either year, 35 subscriptions of the JOURNAL OF FARM ECONOMICS by the American Library Association for future distribution to libraries in foreign countries.

Membership at the outbreak of the war in Europe was 1269. It is now 1165—a decrease of 104. This loss is more than accounted for by the decrease in foreign libraries and firms (75), and junior memberships (50).

Finances—The Association ended the year with a balance from operations, of receipts over expenses of \$1,792.62. This is a reduction of some \$783.00 from that of 1944. Operating income showed an increase of approximately \$700 over that of the previous year, but operating expenses

increased by \$1,471.00. This increase is made up almost wholly of two items—1) Farm Price Policy contest, \$889.00, and 2) expenses connected with the meeting of the Executive Committee in Washington, \$331.00.

Non-operating income—returns on investments—amounted to \$1,549.86 a decrease of \$535.00. Total net earnings amounted to \$3,342.48 as compared to \$4,661.17 for 1944.

The operating and financial statements for 1945 as compared to 1944 are given below:

OPERATING STATEMENT
AMERICAN FARM ECONOMIC ASSOCIATION
YEAR ENDING NOVEMBER 30, 1945

	1945	1944
<i>Operating Income</i>		
Receipts from dues.....	\$6,651.53	
Back Numbers sold.....	428.75	
Reprints sold.....	225.46	
Advertising sold.....	100.00	
	<hr/>	
	\$ 7,405.74	\$ 6,717.38
<i>Operating Expenses</i>		
JOURNAL OF FARM ECONOMICS		
Vol. XXVI, 4 issues.....	\$3,460.60	
4 reprints...	492.08	
	<hr/>	
	\$3,952.68	
Farm Price Policy Contest		
Printing.....	\$ 223.49	
Postage.....	57.50	
Judges' expenses.....	485.67	
Travel, President.....	105.79	
Travel, Secretary.....	16.96	
	<hr/>	
	\$ 889.41	
Executive Committee Meeting.....	\$ 331.86	
Postage and wires.....	161.99	
Clerical & Editorial Expenses.....	96.82	
Annual Meeting Expenses		
1945.....	40.91	
President's expenses, 1944..	38.75	
Ballots & envelopes, 1944..	21.25	
Back numbers Purchased..	29.00	
Office supplies.....	28.75	
Surety Bond.....	17.50	
Safety Deposit Box.....	4.20	
	<hr/>	
	\$ 771.03	
	<hr/>	
	\$ 5,613.12	\$ 4,141.50
Excess, Receipts above Operating Expenses.....	\$ 1,792.62	\$ 2,575.88
Plus Non-operating Income.....	1,549.86	2,085.29
	<hr/>	<hr/>
Total Excess, Receipts above expenses.....	\$ 3,342.48	\$ 4,661.17

FINANCIAL STATEMENT
AMERICAN FARM ECONOMIC ASSOCIATION
DECEMBER 1, 1945

<i>Assets</i>		
Cash bank balance.....	\$ 1,147.07	
Stocks, Market value.....	39,692.00	
Bonds, Market value.....	9,775.00	
		\$50,614.07 \$48,046.72
<i>Proprietary Interest</i>		
Net worth, December 1, 1944.....	\$48,046.72	
Plus net returns for Year		
Operating.....	1,792.62	
Non-operating.....	1,549.86	
Increase market value, stocks.....	4,194.87	
Increase market value, bonds.....	30.00	
		\$50,614.07 \$48,046.72

Investments—The market value of the Association's stocks at the close of the fiscal year was \$39,692. This is \$4,289.00 more than their cost. The Association holds government bonds with a cash value of \$9,775.00. Total assets—stocks, bonds, and cash—amounted to \$50,614.00 at the close of the fiscal year. A detailed report of the Investment Policy Committee on the year's operations has been submitted to the Executive Committee.

Farm Price Policy Contest—The Executive Committee, at its meeting in Washington D. C., February 2 and 3, 1945, was informed of the possibility of securing a substantial sum for making cash awards for outstanding papers dealing with agricultural price policies. The Executive Committee formulated and became a party to a written agreement covering its responsibilities and authority as sponsor of the contest. For purposes of the record this agreement is reproduced below.

Agreement

The Executive Committee of the American Farm Economic Association hereby accepts in the name of the Association, the sum of \$12,500.00 from W. H. Jasspon.

The American Farm Economic Association allots, not to exceed \$2,500.00 toward the cost of administering this project.

It is mutually understood that this sum of \$12,500.00 is to be used in conducting a contest for the best papers on the subject of "Farm Price Policies." This contest is to be sponsored by the Association, and conducted under the control of its Executive Committee.

The conditions governing the holding of the contest are contained in the attached memorandum which is hereby made a part of this agreement.

Signed the third day of February 1945.

The American Farm Economic Association
(Signed) L. J. NORTON, *President*
(Signed) W. H. JASSPON, *Donor*

The donor, Mr. W. H. Jasspon has further agreed to defray the cost of 1200 reprints of that portion of the November 1945 issue of the JOURNAL OF FARM ECONOMICS containing the 18 prize winning papers. These reprints are being distributed under the direction of the President of the Association.

Respectfully submitted,
(Signed) ASHER HOBSON, *Secretary-Treasurer*

Report accepted as read.

Auditor's Report

In accordance with the request of the president, I examined the accounts of the Secretary-Treasurer of the American Farm Economic Association for the year ending November 30, 1945. I have checked all entries against supporting vouchers and found them in agreement. I have examined the bank statements and checked the securities owned by the Association.

The books of the Association have been carefully, correctly, and efficiently kept and I certify that the financial statement made by the Secretary-Treasurer reflects the financial condition and the transactions of the Association as shown by his records.

Respectfully submitted,
(Signed) S. A. ENGINE

Report accepted as read.

Report of the Editor

Two unusual circumstances characterized the JOURNAL this year. These were the absence of an annual proceedings number and the publication of the essays from the price policy contest. The absence of an annual meeting and its accompanying proceedings number permitted the inclusion of more than the usual amount of contributed material in Volume XXVII. At the beginning of the year, the Editor experienced some qualms concerning the availability of suitable manuscripts to fill the gap, but the wholehearted response of the Editorial Council and the fine cooperation of contributors solved the problem. It was, in consequence, necessary to close the year with an apology for having slightly exceeded the thousand pages allotted to the JOURNAL by the Executive Committee.

The JOURNAL this year contained 1048 pages. Approximately eighty per cent of the space was devoted to articles, ten per cent to notes, seven per cent to book reviews, and the remaining three per cent to annual reports, news notes, the index and advertising. There were fifty-seven articles published which included the eighteen award papers on price policy, nineteen notes and thirty-three reviews. The Note Section has been the portion of the JOURNAL which it has been most difficult to have serve its stated purpose. It is our hope that during the coming year the membership will direct more of their attention to the submission of material designed to appear in this section. The Division of printed matter during the year was as follows:

Issue	Articles including discussions	Notes	Re- views	News items	Annual Reports	Adver- tising	Other	Total
February	175	38	14	3	12	7	2	251
May	218	20	22	3	—	9	1	273
August	170	34	20	3	—	4	1	232
November	239	14	17	5	—	5	12	292
Total	802	106	73	14	12	25	16	1048

Under instructions from the Executive Committee, the Editor determined upon a method of selecting the outstanding article of the year published in the JOURNAL. The membership was provided with a printed ballot, and together with the information from this ballot and the opinions of a committee composed of H. B. Price, F. F. Hill, F. V. Waugh and the Editor, the selection was made. Apologies are due to the four persons whose articles appeared in the November issue. During the coming year, a better timing of the ballots will be essential. The variety of interests of the membership is indicated by the fact that every article, except five, had at least one vote from the membership as being among the three best articles published during the year.

The Editor wishes publicly to acknowledge the cooperation of the Editorial Council during the year and the assistance of the associate editors. The work of Professor E. Fred Koller in handling the book review section deserves special comment. Because of Dr. Koller's close attention, the JOURNAL has in general provided earlier reviews of the new material than other professional journals which we have examined.

Publication of a Journal of high standards and wide interest depends, of course, upon the quality and quantity of material from which selection can be made. I want to urge the membership to support the JOURNAL in this respect.

(Signed) WARREN C. WAITE
Editor

Report accepted as read.

Report of the Election Tellers

We, the undersigned, have counted the ballots and find that there were 439 ballots cast.

F. V. Waugh was elected President.

W. G. Murray and G. H. Aull were elected Vice-Presidents.

Asher Hobson was elected Secretary-Treasurer.

Respectfully submitted,

(Signed) JOHN E. WILLS

(Signed) SAM H. THOMPSON, *Chairman*

Report accepted as read.

Other Business

During the years 1942, 1943, and 1944, when it was impossible, or at least inadvisable, to hold annual meetings of the Association, your Executive Committees for each of these years decided to convene the members of the Executive Committee and the Editor, at the expense of the Association. The meetings and the expenses incurred were:

<i>Date</i>	<i>Place</i>	<i>Expense</i>
January 9, 1943	Chicago	\$126.34
January 21-22, 1944	Washington, D. C.	176.78
February 3-4, 1945	Washington, D. C.	331.86

Extraordinary expenses of this nature would usually be submitted to the membership for approval before the commitments are made. These items are now being submitted for your approval.

Expenditures approved.

Action by the Executive Committee, February 1945 Meeting. Submitted to the Membership for approval.

"On an experimental basis, the editor of the JOURNAL OF FARM ECONOMICS is instructed to establish the procedure of selecting the outstanding article appearing in the volume of the JOURNAL issued during the year 1945 and in succeeding years; that the author of the article chosen be appropriately recognized at the annual meeting and be awarded an honorarium of One Hundred Dollars. This recognition is to be known as THE DISTINGUISHED PUBLICATION AWARD OF THE AMERICAN FARM ECONOMIC ASSOCIATION."

Action of the Executive Committee approved.

Moved that the Executive Committee be authorized to develop further and carry out plans for providing a suitable award for the best contributions to the JOURNAL OF FARM ECONOMICS.

Motion carried.

Professor Charles L. Stewart presented the following proposal.

"It has been noted that there have been placed before the United States Congress, Senate Bill 1720 and other bills to promote the progress of science and the useful arts, to secure the national defense, to advance the national health and welfare, primarily through the creation and maintenance of a National Science Foundation.

It is noted that the terms of one of these proposals are for a Foundation that shall have within it a Division of Mathematical and Physical Sciences, a Division of Biological Sciences, a Division of Social Sciences, a Division of Health and Medical Sciences, a Division of National Defense, A Division of Engineering and Technology, a Division of Scientific Personnel and Education, and additional divisions.

Be it resolved, that the American Farm Economic Association authorize its Executive offices to (1) keep in touch with the progress of the present and other proposals before the public looking to a similar end; (2) inform the leaders in such legislation that this Association favors the promotion of

scientific research and development by the national government on a basis that includes vigorous cooperation with tax supported state colleges and universities, including the land-grant institutions, and also vigorous cooperation with other non-profit organizations, collegiate and otherwise, with proper safeguards against waste of national funds, and (3) to keep the membership of the Association informed concerning developing aspects of these legislative efforts through the JOURNAL OF FARM ECONOMICS and other appropriate mediums throughout the coming year."

Without objection, the President referred the proposal to the Executive Committee for consideration and appropriate action.

Dr. Eric Englund submitted the following motion.

"The American Farm Economic Association favors in principle the proposals that have been made for Federal legislation to establish and finance a national body to promote scientific research and development in the natural and social sciences and related fields, and authorizes and directs the Executive Committee to:

- 1) Provide representation of the Association in the consideration of this matter with other organizations, especially organizations in agriculture and the social sciences;

- 2) Participate with such organizations in recommendations relating to these proposals; and

- 3) Keep the membership of the Association advised of developments in this matter by any means deemed appropriate by the Committee.

Motion carried.

EXECUTIVE COMMITTEE ACTION

MEETING OF DECEMBER 26, 1945

The report of the Investment Policy Committee was approved.

The Executive Committee reaffirmed the policy of investing Association funds in common stocks.

Following the Secretary-Treasurer's statement that he does not wish to accept nomination for the office beyond the end of 1946, and his intention to suggest to the Investment Policy Committee that the Association's stocks be liquidated before the end of the fiscal year, 1946, in order that the new committee have a freer hand in investing the Association's funds, the Executive Committee indicated that such liquidation was not necessary merely because of a change in the holder of the office of Secretary-Treasurer. The Executive Committee left the final decision to the Investment Policy Committee.

The Executive Committee requests the incoming President to appoint a Committee composed of himself as chairman, the editor, and the secretary-treasurer, to consider ways and means of developing closer relationships between this Association and the Western Farm Economic Association, and other similar regional associations primarily interested in the field of Agricultural Economics.

It is recommended that the incoming president arrange for an appraisal of the Farm Price Policy contest papers, and that such an appraisal be designed for publication in the JOURNAL OF FARM ECONOMICS.

The Executive Committee received a request for payment of travel expenses incurred in connection with a meeting of one of the Association's special committees. It has been a policy of long standing that the Association not assume financial responsibility for travel connected with meetings of special committees. The Executive Committee declined to deviate from that policy.

The Executive Committee voted to reimburse a chairman of a special committee for expenses incurred on behalf of the committee for postage, telegrams, and mimeographing amounting to \$21.60.

The Secretary-Treasurer was authorized to continue to represent the Association at the meetings of the American Institute of Cooperation.

Editor Warren C. Waite announced that John M. Brewster would receive the 1945 "Distinguished Publication Award of the American Farm Economic Association" for his article, "Farm Technological Advance and Total Population Growth" appearing in the August 1945 issue of the JOURNAL OF FARM ECONOMICS.

MEETING OF DECEMBER 28, 1945

Mr. Warren C. Waite was appointed editor of the JOURNAL OF FARM ECONOMICS for the year 1946.

The President was instructed to get in touch with officers of other Social Science organizations with regard to arrangements for the 1946 annual meeting. The committee approved the suggestion that the President circulate the membership regarding its preferences relating to the meetings of the Association.

In order to furnish transfer officers of corporations with the necessary evidence that the Secretary-Treasurer is authorized to transfer securities in the name of the Association, the following resolution was adopted.

"RESOLVED, that the Secretary-Treasurer who is also Chairman of the Investment Policy Committee, be and is hereby authorized and empowered, for and in the name and on behalf of this Association to take any and all such steps, and to do any and all such things, as may be necessary, required, and appropriate for, or in connection with the purchase, acquisition, acceptance, handling, pledging, sale, or other disposition of stocks, bonds, and other securities belonging to the Association or pertaining to its business, including the execution and delivery for and in the name and on behalf of the Association, of any and all endorsements, transfer and assignments of certificates of stock, bonds, or other securities standing in the name of this Association, either for the purpose of sale or transfer, and all such other steps and action as may be necessary or proper in connection herewith."